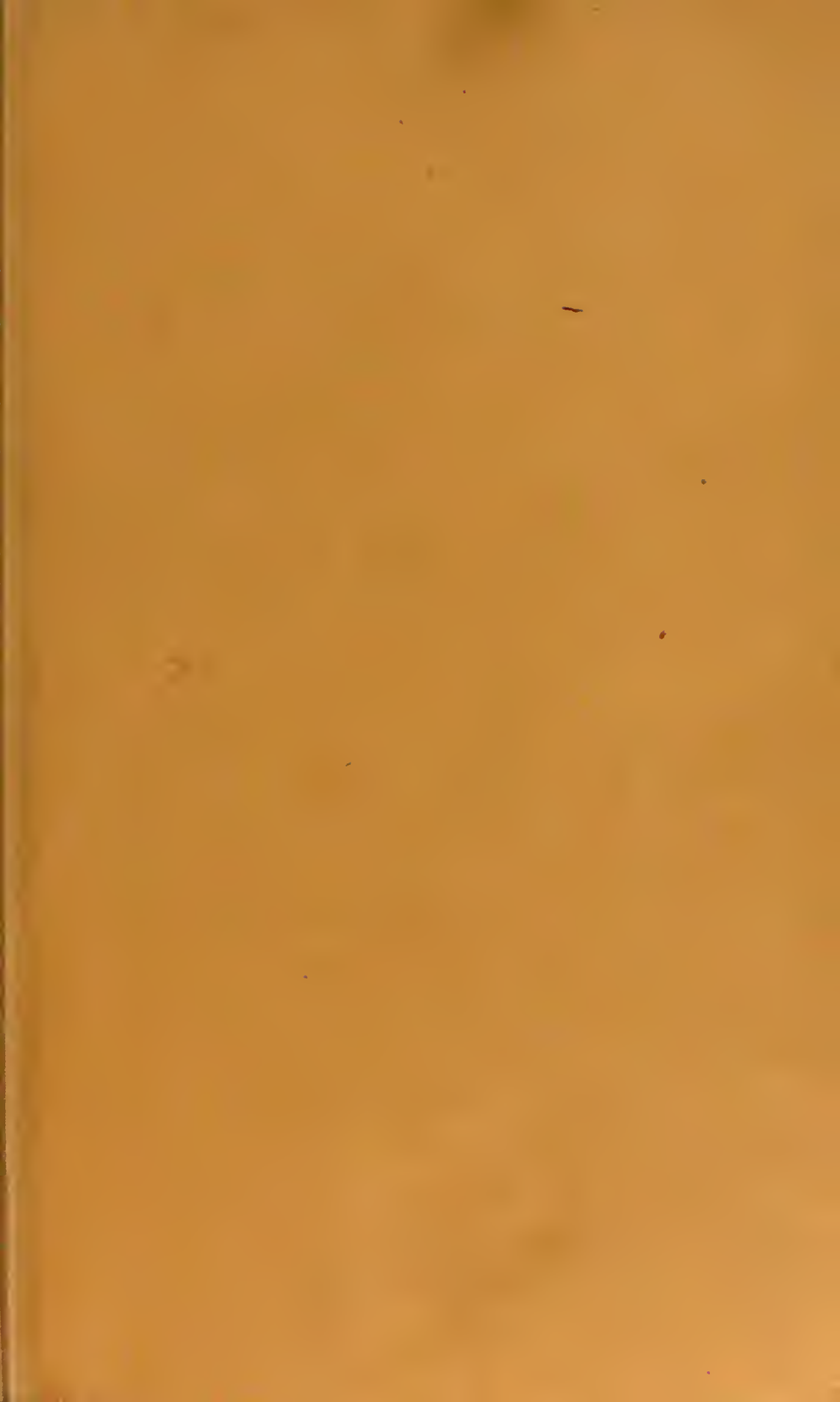


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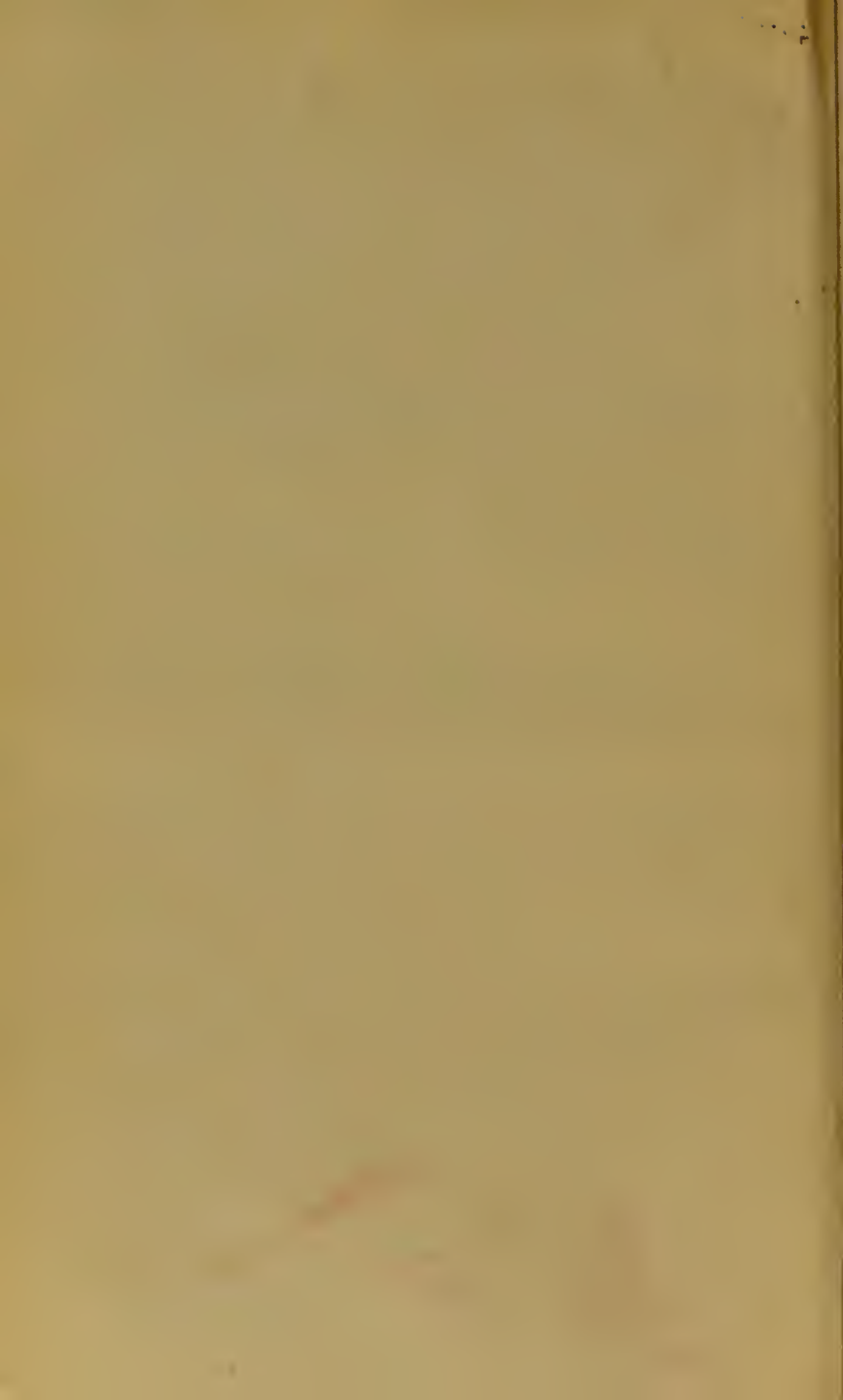














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THE  
STUDY OF MEDICINE.

BY JOHN MASON GOOD,

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IMPROVED FROM THE AUTHOR'S MANUSCRIPTS,  
AND BY REFERENCE TO THE LATEST ADVANCES IN PHYSIOLOGY,  
PATHOLOGY, AND PRACTICE.

Fourth Edition,

BY

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VOL. II.

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CLASS III.

CLASS III.

HÆMATICA.

DISEASES OF THE SANGUINEOUS FUNCTION.

ORDER II.

PHLOGOTICA.

INFLAMMATIONS.

III.

EXANTHEMATICA.

ERUPTIVE FEVERS.

IV.

DYSTHETICA.

CACHEXIES.



# CLASS III.

## H L E M A T I C A.

### ORDER II.

#### PHILOGOTICA.

#### INFLAMMATIONS.

FIXED HEAT AND PAIN OR SORENESS; INCREASED SECRETION;  
 LESION OF A PARTICULAR PART OR ORGAN; MOSTLY AC-  
 COMPANIED WITH FEVER.

THE diseases, comprised under this order, are sometimes called Local Inflammations: as the term General Inflammation is, by a few writers, and particularly by Dr. Fordyce, applied to Cauma or Inflammatory Fever. In the present text, the ordinal name made choice of, is PHILOGOTICA, from *πύρω*, "incendo," "ango." Linnæus employs *phlogistica*, from the same root; but as the chemists have long since laid hold of phlogiston, and the term, though lately disused, has a chance of being restored, the derivative PHILOGOTICA seems preferable. Dr. Cullen has PHLEGMASIE, after Galen and Sauvages; but as *phlegmasia*, and *phlegmatic*, from the same source, import, in common medical language, a very different and almost an opposite idea, the author has also purposely passed by this term in order to prevent confusion. The nature of the fever, accompanying the inflammation, cannot enter into the definition; for this will vary with the nature of the inflammation itself, and not unfrequently with the structure of the organ.

When an inflammation takes place near the surface of the body, there is not only heat and pain, or soreness, but more or less swelling, hardness, and redness, and we hence infer the existence of these last symptoms in inflamed parts which lie beyond the reach of vision.

In most cases, inflammation begins at a point; for, at the commencement, all the local symptoms lie within a very small compass. The spreading of the inflammation is owing to continued sympathy, the surrounding parts participating with the point of irritation; and, in proportion to the health of the surrounding parts and constitution, this sympathy is less.

The act of inflammation seems to consist in an increased action of the vessels; mostly, if not altogether, of the extreme vessels; for wherever inflammation appears, it may be confined to a point,

#### CLASS III.

#### ORDER II.

The species sometimes called local inflammations, Phlogotica, why used as the ordinal term.

Nature of the fever depends upon that of the inflammation.

Inflammation, how ascertained when deep-seated.

Origin and progress of inflammation.

## CLASS III.

## ORDER II.

## Phlogotica.

Mostly begins  
in the capil-  
laries, and why.

Commences as  
a blush ;

and is accom-  
panied with a  
gentle glow.

Coagulating  
lymph is next  
separated :

and produces  
adhesions,  
together with  
increased bulk :

in which none but the smallest vessels can exist. Independently of which, we have already had occasion to observe, that the capillaries are endowed with the property of contractility, and consequently are more capable of sustaining the phenomena of inflammation, than the arterial trunks.

The first act of the vessels when the stimulus which excites inflammation is applied, Mr. Hunter supposes to be precisely similar to a blush ; and to consist in a simple distention or increased diameter beyond their natural size ; such as we see takes place on the application of a gentle friction, or of gently stimulating medicines, to the skin ; and the consequence of which is a warm glow, when limited to the degree we are now supposing ; but which, if carried farther, would be followed by excoriation, suppuration, and ulceration. \*

The inflamed vessels, being thus enlarged and irritated, begin to separate from the blood they contain some portion of its coagulating lymph, together with some serum, red globules, or whatever other fluid the vessels may be loaded with ; and to throw these materials out on the internal surface of the part inflamed ; probably through the exhalants, or, perhaps, through new vessels which may be now forming around them ; whence the sides of the cellular membrane, which receive the effusion, become covered with it, unite with the opposite sides with which they are in contact, and thus form the first foundation of adhesion. " It appears," says Dr. Lucas, " that whenever the vessels act with unusual force, there is a tendency in the coagulating lymph to separate from the other constituent principles of the blood ; by the effusion of which, as the most sanguineous part of the blood, it is probable, that the circulation of the remaining part is facilitated, independent of the relief

\* Three elementary parts of the body are primarily and essentially affected in inflammation, viz. the blood-vessels, the nerves, and the blood. In the various views taken of the nature of inflammation, the share which the nerves have in the process has generally been too much overlooked. Will the arteries begin the increased action, whatever this may be defined, unless influenced to do so by the nerves ? In the summary of the changes which occur in inflammation, as this process is described by Kaltenbrunner (*Récherches Experim. sur l'Inflammation*), we find, therefore, increased sensibility of the part specified very correctly as *followed* by increased action of the vessels, quickened circulation, increased influx of blood, dilatation of the small vessels and capillaries, admission of red blood into vessels previously colourless, turgescence, swelling, and sometimes a slow and embarrassed circulation. This is the first stage, or that of *active congestion*. If the disorder advance further, the contractility of the vessels is paralysed by their over-distention, the blood stagnates and undergoes changes in its composition, disense of the coats of the blood-vessels, rupture of many vessels, extravasation and effusion of blood, coagulable lymph, and serous fluid, and changes in the structure of the part affected, take place, constituting complete inflammation. As Drs. A. Crawford and Tweedie, the authors of the article *INFLAMMATION*, in the *Cyclop. of Pract. Med.*, have observed, — " This view of the theory of inflammation has the advantage of accounting, in the most satisfactory manner, for many of the modifications of common inflammation. The exciting cause may be of such a nature as at first to stimulate both the sensibility and vascular contractility of the part, and induce a degree of congestion. But if its action be increased beyond a certain point, it may have an opposite effect in lessening both the sensibility and vascular contractility, and inducing a state of torpor ; the blood will then stagnate, not from excessive irritation and distention of the vessels, but in consequence of their deficient vitality and relaxed condition." — *Ed.*

obtained by the diminution of volume."\* We may at least hereby readily account for much of that diminution of pain which often takes place while the swelling still continues, or is even augmented. The increased bulk of an inflamed part is produced chiefly by this effusion; and the increased redness, partly by the larger quantity of blood contained in the distended old vessels, and partly by the production of new vessels formed out of the coagulating lymph thus extravasated.†

Inflammation, therefore, consists in an increased impetus and accumulation of blood in the vessels affected, accompanied with a proportionate swelling and sense of heat. The pathologists have pretty generally concurred in ascribing this accumulation of blood to an obstruction of some kind or other; but they have differed upon its nature and origin; and have not been able to determine whether it be dependent upon the crisis of the blood itself, or the resistance of the vessels that contain it.

Generally speaking, however, it has, by all the schools of medicine, been ascribed to whatever has been supposed to be the proximate cause of fever: and hence the humoral pathologists attributed it to a lentor or viscosity of the circulating fluid; and the corpuscular, to an error loci, concerning both of which we have already treated; the cause of obstruction, in the view of either hypothesis, being seated in the nature or misdirection of the constituent parts of the blood itself: while Dr. Cullen refers it to the same kind of spasm, which he regards as the proximate cause of fever; and hence derives the obstruction from a constrictive resistance in the vessels of the part affected: which, he farther supposes, forms but a mere link in the tensive chain of a phlogistic diathesis, which more or less runs through the entire habit at the time of inflammation, and constitutes the predisposition to its rise and progress.

"That a spasm," says he, "of the extreme vessels takes place in inflammation, is presumed from what is at the same time the state of the whole arterial system. In all considerable inflammations, though arising in one part only, an affection is communicated to the whole system; in consequence of which an inflammation is readily produced in other parts besides that first affected. This general affection is well known to physicians under the name of *diathesis phlogistica*. It most commonly appears in persons of the most rigid fibres; it is often manifestly induced by the tonic or astringent power of cold; increased by all tonic and stimulant powers applied to the body; always attended by hardness of the pulse; and most effectually taken off by the relaxing power of blood-letting. From these circumstances it is probable, that the diathesis phlogistica consists in an increased tone or contractibility, and, perhaps, contraction, of the muscular fibres of the whole arterial system."‡

To the first two of these hypotheses the same objections apply, that we have already seen apply to them as causes of fever. That an error loci occasionally takes place, or, in other words, an entrance of red or other particles of blood into minute vessels to which they

CLASS III.  
ORDER II.  
Phlogotica.

and new  
vessels.

Hence  
inflammation,  
increased  
impetus, and  
accumulation  
of blood.

Accounted for  
by an obstruction.

Proximate  
cause of  
obstruction  
explained  
variously.

Doctrine of the  
humoralists;  
of the corpus-  
cularians:  
of Cullen.

Objections to  
the first two  
hypotheses.

\* On the Principles of Inflammation and Fever. 8vo. 1792.

† The generality of pathologists at the present day do not adopt the opinion that the new vessels are formed out of the coagulable lymph, but that they extend or shoot into such lymph from the neighbouring original vessels. — En.

‡ Pract. of Phys., vol. iv. sect. cccxvii.



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ORDER II.  
Phlogistica.

do not naturally belong, is unquestionable ; but then this is rather a secondary, than a primary link, in the chain of inflammation, and consequently an effect rather than a cause.

Objections to  
Cullen's  
hypothesis.

Its incon-  
gruity.

Difficulty  
in his own  
explanation  
admitted by  
Cullen.

Yet the hypothesis of Dr. Cullen does not seem to be more satisfactory, and is especially open to the two following objections, to say nothing of various minor difficulties with which it is attended.

It supposes, in the first place, as a general rule, that inflammations, of every kind, however minute and circumscribed, are dependent upon a particular habit of body at the time, distinguished by the name of a phlogistic diathesis. But we see inflammations occurring in habits of every kind, and varying in many of their features according to the variety of the habit ; and we see them also arise in individuals who have no such phlogistic habit or diathesis as is here referred to. And we often, moreover, see examples of this very diathesis operating upon individuals for years, without producing any such effect as inflammation in particular parts. And we cannot, therefore, regard such a diathesis as a proximate cause of inflammation in general, though it may often be so of a particular kind of inflammation. Dr. Cullen, indeed, was aware of this difficulty, and even admits it. "Such a state of the system," says he, "seems often to arise and subsist for some time without the apparent inflammation of any particular part : but such a state of the system renders it *likely* that a spasm *may*, at the same time, readily arise in any of the extreme vessels, and a particular inflammation be there produced. It does, however, appear, also, that the general diathesis frequently arises from inflammation begun in a particular part." \*

Now, this is not only to admit the difficulty, but to fall prostrate before it. It is to admit what at once settles the entire question. The cause and the effect are made to change places : and the phlogistic diathesis is as broadly stated to originate from inflammation in a particular part, as inflammation in a particular part is stated to originate in the phlogistic diathesis.

At variance  
with the  
common  
phenomena of  
inflammation :

But, secondly, this hypothesis seems not only to be chargeable with incongruity, but to be directly at variance with the ordinary train of phenomena by which inflammation is accompanied, That the habit here alluded to, under the name of diathesis phlogistica, exists, and that very frequently, is not to be questioned ; and Dr. Cullen has very lucidly described what is ordinarily meant by it. "It seems probable," says he, "that the diathesis phlogistica consists in an increased tone or contractibility, and, perhaps, in an increased contraction, of the muscular fibres of the whole arterial system ;" "it appears most commonly in persons of the most rigid fibres." But I believe it will be found by every one who investigates the subject that, so far from this being the habit of body in which inflammation is most frequently to be met with, it is that in which it occurs more rarely than in many others. That it occurs in it at times is unquestionable ; for inflammation, under some form or other, occurs in habits of every kind : but, if we look for specimens of larger or smaller inflammation, of deep-seated or superficial, nay, even of suppurative or ulcerative, we shall meet with them, if I mistake not, far more generally in constitutions marked

\* Loc. citat.



by mobile and irritable than by firm and rigid fibres; in habits characterised by atonic, rather than by entonic, action. It is not till the constitution has been broken down, and the liver rendered feeble and torpid by the influence of a tropical sun, that hepatitis makes its appearance in its ordinary course of attack; phthisis occurs in relaxed and delicate, and not in hardy and robust frames; psoas abscess, peritoneal inflammation, struma, and those vast formations of pus which are sometimes found in parabsymic tumours or physconies, for the most part follow the same track; while the best, if not the only, remedy for the innumerable host of erythematic inflammations, whether erysipelatous, gangrenous, or vesicular, pernio or intertrigo, is to raise the part or the constitution to that scale of vigour, the reduction of which is well known to form a common predisposition to all of them.\* That there may exist such a condition of body as an inflammatory diathesis, or a predisposition to inflammatory action of some kind or other, according to the idiosyncrasy or established habit, or some controlling accident, is unquestionable; but such a diathesis cannot be made synonymous with the phlogistic diathesis as described by Dr. Cullen, unless there be but one kind of inflammation, and that such an inflammation as has a natural and necessary relation to the entony and rigidity of fibre which are here presupposed.

The little that we know upon the subject may, perhaps, be comprised in a few words: the standard of firm health is the best guard against inflammations of every kind, or the state in which a man is least susceptible of them; and a deviation in either direction, whether towards a habit of entony or atony, capacities him for breeding them. But it does not capacity him equally; for, in the latter case, they are produced far more easily and generally than in the former.

And, as in weak parts, or habits, a peculiar susceptibility of irritation seems to be a necessary adjunct in the production of inflammation, it is possible that it may be equally necessary in the opposite state of excessive firmness and rigidity of fibre; since this also will, at times, continue for years without giving rise to any inflammation whatever, and seems equally to demand an exciting accessory. And hence the real inflammatory or phlogistic diathesis, constituting, however, a remote, more properly than a proximate, cause, is, perhaps, to be found in increased irritability of the living fibre, rather than in an increased rigidity and vigour.

The great difficulty in the subject is that of reconciling the increased action, which seems to take place in the vessels of an inflamed part, with the general intumescence of such part, and, as

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ORDER II.

Phlogistica.

which occur more frequently in atonic than entonic habits.

Summary of what is known upon the subject:

In both a peculiar susceptibility of irritation.

Chief difficulty in reconciling an increased size of the vessels with increased action.

\* The doctrine that erysipelas is necessarily connected with debility, and that its treatment essentially requires tonic remedies and stimulants, is one that was generally prevalent about fifty years ago, and still continues to influence the precepts of particular schools. From the foregoing passage, it appears that Dr. Good entertained a similar belief; but, though erysipelas sometimes occurs in debilitated subjects, and sometimes, by the severity of its course, reduces the patient to a state requiring tonics and stimulants, just as other inflammations do, experience proves, that its existence is not inseparably connected with weakness; that, on the contrary, it frequently takes place in strong young plethoric constitutions; and that it is often most benefited by bleeding and other anti-phlogistic measures. On this point, the writings of Mr. Lawrence will tend to dispel a great deal of prejudice. See Med. Chir. Trans., vol. xiii. — Ed.

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ORDER II.  
Phlogotica.

Hence an  
opposite  
hypothesis,  
which supposes  
a decrease of  
arterial action.

This hypothesis  
plausible at  
first sight :

and ably  
supported.

But only  
plausible at  
first sight.

is commonly conceived, the augmented diameter of the inflamed vessels themselves ; since the ordinary effect of increased arterial action seems to be that of an increased contraction, and consequently a diminished diameter of the affected vessels, which would lead to an extenuation, rather than an enlargement, of the inflamed part. And hence a directly opposite view of the subject has been taken by many pathologists of deserved authority in our own day, who have regarded the proximate cause of inflammation as consisting in a *decreased*, instead of an *increased*, arterial action, and consequently as evincing a lower, instead of a higher, degree of contractility. Upon this hypothesis, the inflamed arteries give way too readily to the impetus of the blood from the heart, and the part affected becomes swollen from the excess of blood that flows into it, and acquires additional heat and redness from the same cause.

There is something highly plausible in this explanation ; and those who wish to trace it further may find a very neat and interesting statement of it in Dr. Bostock's valuable *Elementary System of Physiology*.\* It was first advanced by Vacca, an Italian physiologist, about the middle of the last century, and has since been supported by Mr. Allen in his lectures at Edinburgh, by Dr. Parr, Dr. Wilson Philip, Dr. Thomson, and Dr. Hastings.†

I have said that there is something highly plausible in this hypo-

\* Vol. i. p. 420. 8vo. 1824. Also in Thomson's *Lectures on Inflammation*.

† In John Hunter's theory of inflammation, the increased size of the arteries is conceived to depend upon a diminution of the muscular power of these vessels. In this respect, though in few others, there is an approximation of Vacca's doctrine to the Hunterian view of the subject. While John Hunter ascribes the increased flow of blood to and through inflamed parts to the dilatation of the arteries, some other pathologists explain the fact by the great power of contractility in the minute ramifications of these vessels. Yet many of the small arteries are plainly discerned to be increased in size, and, in certain stages of inflammation, the motion of the blood in them, instead of being quickened, is retarded. Great obscurity prevails, however, respecting the exact state of all the vessels, and the circulation through them in inflammation ; and, though some be enlarged, and more or less obstructed with stagnant blood, certain facts tend to prove, that, at all events, there is an augmented determination of blood to an inflamed part, and a greater return of blood from it. It is by the capillary arteries, " that the functions of nutrition and secretion are performed, and it is absolutely necessary for the uniform and uninterrupted accomplishment of these varied and highly important functions, that they should have the power of controlling the motion of the fluid circulating within them. The relative momentum of the blood in different parts of the body, or the quantity of blood and its velocity, are perpetually varying from the influence of external stimuli or internal causes ; and this variable state of the momentum of different portions of the arterial system is a decisive proof of the vital contractility of its vessels. We thus observe the minute vessels of the cheek, in the act of blushing, acquiring increased activity, and admitting more blood ; while, under the influence of depressing passions, such as fear, they are suddenly emptied, and the countenance becomes pale. Local inflammation is stated by all pathological writers to be characterised by a rapid throbbing pulsation of the vessels in the part affected, while the action of the heart and arteries of other parts of the body may not be increased. If a person, having an inflammation in one hand, be bled in both arms at the same time, twice or thrice as much blood will flow from the diseased side as from the other." (See *Cyclop. of Pract. Med.*, art. INFLAMMATION.) Whatever may be our theory of the proximate cause of inflammation, whatever may be our view of the exact state of the vessels of the inflamed part, and the circulation in them, we must admit, that more blood is propelled to it, and a greater quantity returned from it, than in the natural state. — Ed.

thesis *at first sight*. Beyond this, however, its plausibility does not proceed; and hence these respectable authorities, while they agree in the main principle of diminished action of the capillary arteries, differ widely concerning the actual state of the vessels, and particularly upon the question whether the velocity of the fluids they contain is diminished or accelerated.\* Let these effects, however, be as they may, the hypothesis, as it appears to me, equally fails in accounting for the heat, and the soreness or pain, which are essential characters of inflammation, and which accompany it from its commencement.

The augmented heat is accounted for by the accumulation of a larger proportion of blood. But a mere accumulation of blood can produce no such effect. Its natural temperature is 98° of Fahrenheit, and, however it may be congested, it cannot, without some other change, give forth a heat of 99° or 100°. In the exercise of walking or running, the increased heat produced is the result of increased action, and, so far from being that of increased accumulation of blood, the heat continues to augment as the blood, in conjunction with the other fluids of the body, continues to diminish. The soreness or pain is ascribed to the distention. But distention in vessels or organs of any kind that are in a state of relaxation, and possess little contractility, produces no pain or soreness even when carried to an extreme; while, in the case before us, these symptoms, as just observed, show themselves from the first, and are even most severe when the distention is least of all.

But, independently of these objections, both the exciting causes and the treatment of inflammation seem far better to coincide with the idea of redundant than of defective action; and the case upon this point is put so candidly by Dr. Bostock, that the reader will thank me for substituting his words for my own. "All those circumstances," says he, "which we are usually in the habit of considering as stimulants, excite inflammation; and where the same effect is brought about by sedatives or by agents of a more powerful operation, still we can generally perceive the existence of what has been termed re-action, which is the immediate precursor of the change in the state of the circulation. In the same way, the remedies for inflammation appear to me to be more adapted to remove or relieve an excess than a defect of vital energy, as for this purpose, except under peculiar circumstances, we always apply either direct or indirect sedatives, and find stimulants to be as injurious as the others are beneficial. For these considerations, I am induced to recur to the former idea of increased action being the proximate cause of inflammation, or, at least, as being essential to it, and to enquire whether there be no correct method of combining a state of increased action with distention of the vessels."†

In the prosecution of this enquiry, Dr. Bostock observes, that the distention must be produced by an obstruction of some kind or other, and he suggests, that the cause of such obstruction may be derived either from the contained fluid, or the containing vessels.

\* This is now known to depend very much upon the stage of inflammation; at first the velocity of the blood in the part affected is generally increased; but, afterwards, if the disorder make progress, the blood moves more slowly than in the healthy state, or even becomes stagnant. — *Ed.*

† *Elementary System of Physiology*, p. 426.

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ORDER II.  
Phlogotica.  
Insurmountable objections to it.  
Does not account for the chief symptoms.

As those of increased heat,

and pain or soreness.

Other objections by Bostock.

Suggestions for explaining away the difficulties attendant on increased action.



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ORDER II.  
Philogotica.

Additional  
explanation  
in proof that  
distention must  
follow upon  
the common  
hypothesis of  
increased  
action.

The contrac-  
tion of muscu-  
lar fibres not  
continuous but  
with alternate  
pauses.

Such pauses or  
relaxations  
more prolonged  
and obvious in  
debilitated  
organs:

the more com-  
mon condition  
of inflamed  
parts.

Capillary  
vessels peculi-  
arly subject to  
such increased  
alternations,  
and why.

Hence the  
difficulty  
solved.

The first he seems to think may be produced by an actual increase of fibrin, or a greater tendency in its usual proportion to coagulate, occasioned by the inflammatory action itself; or by some new arrangement in respect of sanguineous globules, so that they may coalesce, or be more strongly attracted together. And the second may spring from a relaxation in the minute arteries, augmented in proportion to the vigour of their contraction, so as to admit the fibrin and the globules of the blood into vessels which have hitherto been impervious to them, where they must necessarily become impacted from a vis à tergo on the one hand, and the decreasing diameter of the minuter vessels opened into on the other.

Future experiments and enquiries may find no small degree of truth in the one or the other of these suggestions. But, it should not be forgotten, that increase of action by no means necessarily imports increase of strength, and that the motific or contractile power communicated to the muscular fibres never flows, even in a state of health, in a continuous or interrupted tenor, but with an alternation of jets and pauses. Upon this subject we shall treat at some length when examining the morbid actions of the nervous system, as well in the Proem to that class as under several of its subdivisions, particularly the genus CLOXUS or CLONIC SPASM\*; where we shall show that, in weakly habits, in which a morbid increase of nervous action must frequently take place, the more violent the jet, and consequently the contractile effect that ensues, the more prolonged and complete the alternating pause, and consequently the relaxation in the same fibre; excepting in cases of rigid or entastic spasm, which will be explained in its proper place. And hence the very fact of increased contraction paves the way for a subsequent and alternating dilatation, and this too in proportion to the violence that the contraction exhibits; since the stream of nervous power, thus communicated by jets from the sensorial fountain, is expended instantaneously and before the next supply arrives. This must be the result in all cases of inflammation, whether the part affected, or the whole constitution, be in a state of atony or of entony. But, as we have already shown, that inflammation far more generally takes place in the former than in the latter; and as we have shown also, that the capillary vessels, in which inflammation seems to commence, are endowed with a far higher proportion of contractile power than the larger arteries, it must follow, that the morbid irregularity of action which exists of necessity in the vessels of an inflamed part, by such sudden and alternate exhaustions of contractile power, and consequently such intervening periods of rest and relaxation, must lay a foundation for distention; the posterior current of blood now rushing forwards, almost without resistance, into the inflamed part; where, also, it must accumulate, as, in the same vessels, beyond the inflamed limit, there is no such morbid rest and relaxation, and consequently a continuance of the uniform resistance of a healthy state. And when to these facts we add also the necessary intermission of the globular and larger corpuscles of blood into vessels whose ordinary diameter is too small to receive them, we can be no longer at a moment's loss to account for the

\* Cl. iv. Ord. iii. Gen. ii.



phenomena of an enlargement of the inflamed vessels and a distention of the inflamed part.\*

Concerning the proximate cause of inflammation, however, there is yet much to be unravelled. Of its remote causes, and a few of its laws, we are in some degree better informed. The remote causes may be contemplated under the three following divisions :

First, some accidental violence applied to a part, so as to make a wound or bruise, from which it cannot recover, except by the process of inflammation, or which, at least, has a natural tendency to excite such a process.

Secondly, some irritation which does not destroy the texture of the part, but merely its natural action; as pressure, heat, cold, blisters, pungent applications, and often fevers of every kind.

Thirdly, a particular disposition to inflammation, founded, perhaps, as we have just observed, on an irritability in the morbid part itself, and which we often behold in constitutions of the best state of health; affording proof, that the general habit is not, in such cases, concerned in the morbid change. Inflammations from any of these causes, will, however, partake of the character of the constitution: and hence proceed kindly or unkindly, according as the constitution is in a diseased or a healthy condition. Yet the general principle of inflammation is the same in all; for we can only contemplate it as a remedial process, an instinctive effort, or exertion of the vis medicatrix nature, to bring about a re-instatement of the parts nearly to their natural functions.

Yet, though inflammation is uniformly the same in its principle, it often differs widely in its mode of action, and consequently in its result; for, as it has a tendency to partake of the character of the constitution, and especially where it is extensive, according as the constitution is healthy or unhealthy, so will be the nature of the inflammation and the diversity of its progress.

Healthy inflammation consists probably of one kind alone, and is no farther divisible than into different stages of a restorative action, the effect of an instinctive stimulus, rather than of morbid irritation. Unhealthy inflammation consists of many species; for, numberless are the diseases that affect the health of the constitution; and consequently that may influence the character of the inflammation, by superadding peculiarities or specific actions of its own: though it is often affected also by the particular condition of the part in which the inflammation takes place. And hence it is no

CLASS III.

ORDER II.

Phlogotica.

Remote causes.

Accidental violence.

Local irritation.

Particular disposition to inflammation.

Inflammation the same in principle;

yet differs in its mode of action.

Healthy inflammation.

Unhealthy inflammation.

\* From the experiments and microscopic observations of Dr. W. Philip, Dr. Thomson, and Dr. Hastings, it appears, that in inflammation the small vessels, veins as well as arteries, are dilated. The increased action of the minute arteries, so generally and vaguely spoken of as the cause of inflammation, may be a convenient expression; but, when it is to be employed for the purpose of really illustrating the nature of inflammation, an exact definition of its meaning should always precede its use. Thus, if it be understood as implying an alternate increased contraction and dilatation of the minute arteries of an inflamed part, proofs of the fact are wanting. No such motions of the minute arteries in inflammation have ever been seen with the microscope. It was a meaning, also, never entertained by Mr. Hunter; who, when he speaks of the increased action of the arteries in inflammation, appears to signify, amongst other changes, a dilatation of them, attended with a diminution of their contractile or muscular power. Dr. W. Philip's researches lead him also to conclude, that the dilated capillaries are in a debilitated state. — Ed.

CLASS III.  
ORDER II.  
Phlogotica.  
Illustrated.

Three different effects of healthy inflammation; adhesive, suppurative, and ulcerative.

Good reason for contemplating it under these three effects as so many states or stages.

Hunter's observations on the subject of high value.

uncommon thing for particular parts to run into particular inflammations, with the character of which the constitution has little concern; such as those that are occasionally found on the skin, particularly the erysipelatous, as they are commonly, but not quite correctly, denominated, and which we shall presently have to describe under the name of erysipelatous erythema.\*

Simple or healthy inflammation is capable of producing three different effects, which, where the whole take place healthily, follow in regular order, and constitute so many stages. These are adhesions of the parts inflamed, suppuration, and ulceration; to which three different effects Mr. Hunter has given the names of the adhesive, the suppurative, and the ulcerative inflammation.†

There is good reason for this division into different heads; for, although, where the whole takes place healthily, they follow in the order now enumerated, yet the whole do not always take place either healthily or unhealthily, nor is the order thus enumerated in every instance attended to. For pus, as we shall have occasion to observe more largely hereafter, is often produced where there is no adhesive inflammation; and ulceration, where there is neither adhesion nor suppuration: while occasionally the suppurative and adhesive inflammations take place simultaneously; the former being hurried on before the other has completed its own bounds, as is often the case in peritoneal inflammation after child-birth. The degree of violence also, with which the inflammation commences, produces a considerable influence upon these points; and the nature of the parts themselves still more.

With the nature of the parts that constitute the chief fields of inflammation, it is of high importance that we should make ourselves deeply acquainted from the first, that we may be able to determine concerning the particular course the inflammation is likely to run, and regulate our treatment accordingly. And it is of still farther importance that this subject should be attended to on the present occasion, because it is on this distinction of parts, producing a natural tendency to distinct inflammations, that the genera of the order before us are principally constructed.

The whole of the observations of Mr. Hunter upon this interesting point are entitled to the most patient study, and cannot be too closely committed to memory. In the present place, I can only remark, that, in treating of inflammation, he divides the body into two parts: firstly, the circumscribed cavities, organs, and cellular

\* Erysipelas is probably always connected with some constitutional derangement or peculiarity. In that form of it, which is preceded by fever, this is manifestly the case. That persons who lead intemperate lives, are more frequently affected with erysipelas than other subjects, is familiarly known to all practitioners. Atmospheric causes also, by their influence on the constitution, make erysipelas often prevalent in particular seasons and districts. — Ed.

† This account of adhesion, suppuration, and ulceration, following “in regular order, where the whole take place healthily,” cannot be received as correct. Adhesive inflammation often prevents both the other consequences. Yet, you may occasionally see the adhesive, suppurative, and ulcerative forms of inflammation, and even gangrenous mischief, exemplified at different points of the same disease. Suppuration sometimes precedes and leads to ulceration, by the agency of which the pus gains an outlet; but, frequently, the ulceration is the forerunner of suppuration, a chasm is formed in the inflamed tissues, and then the secretion of a puriform fluid begins. — Ed.

membrane which connects them ; and, secondly, the outlets of the body, commonly called mucous membranes, as the ducts of the glands, alimentary canal, and similar organs. He distributes inflammatory affections, as I have just observed, into three sorts, adhesive, suppurative, and ulcerative. Adhesive inflammation belongs chiefly to the former of the above two parts of the body, *where they are deeply seated*, and appears intended to take place for the purpose of preventing suppuration. It applies, therefore, peculiarly to that genus of the present order which we shall denominate EMPRESMA, and which will embrace the visceral organs, allowing for one or two exceptions that are occasionally interposed. Suppurative inflammation belongs chiefly to the same division of parts *placed near the surface* ; and consequently applies to the two genera here denominated PHLEGMONES and PHYMA, embracing small cutaneous abscesses of various kinds. The ulcerative inflammation belongs chiefly to the second order of parts, as the mucous and serous membranes and outlets ; and hence applies principally to the genus ERYTHEMA, or INFLAMMATORY BLUSH ; often, but improperly, called erysipelas, which is an exanthem or eruptive fever, accompanied with erythema. It also applies to that peculiar inflammation which characterises the whitlow, and will be found in the present arrangement under the genus PHLYSIS. Deep-seated suppurative inflammations and abscesses cannot well be placed in either of the genera we have thus far noticed, and have a claim to be considered by themselves. They are hence included in the genus APOSTEMA, with which the order will be found to open.

In circumscribed cavities, where from a peculiarity of constitution, or the peculiar nature or degree of excitement, an inflammation is deflected from its common tendency to produce adhesion, we often find it run on with great rapidity from one part of the cavity to another, till the whole becomes affected. We have already had occasion to notice this inflammation of the peritonæum \* ; and we shall have further occasion to notice it in psoas abscess † and acute rheumatism. And we may hence account for the alarming progress of the same morbid action when it attacks the surface of arteries or veins, from an accidental wound, as in venesection, from true aneurism, or from any other cause ; of which acute rheumatism seems, at least, occasionally to be one. The French writers, who have studied the subject with considerable attention, are disposed to regard these inflammations as in many instances idiopathic, and have distinguished the former by the name of ARTERITIS. ‡ But I am not aware of their having hitherto been found to occur otherwise than as concomitants or sequences of other affections.

The inflammation of veins, by some writers called PHLEBITIS, has of late occupied more attention than that of arteries. It is occasionally a result of an irritated varix, and especially where such varix has undergone the operation of removal, as we shall further

CLASS III.  
ORDER II.  
Phlogotica.

Adhesive  
inflammation,  
where chiefly  
seated.

Suppurative,  
where chiefly  
seated.

Ulcerative,  
where chiefly  
seated.

Often diffusive,  
and why.

Arteritis.

Phlebitis ; or  
inflammation  
of veins.

Accidental  
causes.

\* Cl. III. Ord. I. Gen. IV. Spec. III.

† Cl. III. Ord. II. Gen. I. Spec. II.

‡ See ENECIA CAUMA, Cl. III. Ord. I. Gen. IV. Spec. I. ; as also ARTHROSIA ACUTA, Cl. III. Ord. II. Gen. XII. Spec. I. ; and CL. III. Ord. IV. Gen. X. Spec. II. EXANGIA VARIX. The gangrena senilis, or dry gangrene of elderly persons, is ascribed by Baron Dupuytren to the effects of arteritis. — ED.



CLASS III.  
ORDER II.  
Phlogotica.

Difficulty of  
determining  
these by ex-  
ternal signs.

Exemplified.

Inflammation  
of tendons,  
lymphatics,  
fasciæ.

Duncan's  
diffuse  
inflammation  
of cellular  
texture.

Perhaps  
too much  
generalised :  
particularly  
as including  
erythema  
anatomicum.

observe when treating of this complaint \* : it has also occasionally followed venesection where the lancet has been affected with rust or some other irritant ; and especially where the constitution, or perhaps the vein alone, has been in a state of morbid irritability. And it has sometimes occurred where no distinct cause could be assigned, either during life, or on dissection afterwards. It is by no means easy, and for the most part altogether impossible, to trace an inflammation of a vein or artery by external signs ; for although, in the former, there is sometimes a red streak or two accompanying the general pain and swelling of the limb, and in the latter a more rapid pulsation or throbbing, and in both a line of hardness like that of a cord ; yet, in various cases, nothing of the sort is to be found, and consequently they cannot be regarded as pathognomonic criteria. And, on this account, the author has allotted no distinctive place or name to these affections in the course of his classification ; as feeling that to do so, would be to make an empty display, and a verbal subdivision unattended with any real use. In a striking case which proved fatal, described by Dr. Duncan, the disease was so little indicated by either the general or local symptoms, that it does not seem to have been suspected, and was only accidentally discovered on a post-obit examination. At the time when the symptoms were most aggravated, and less than twenty-four hours before death, when the swelling had extended up the arm, and the pulse was at 120, the limb had an uniform appearance, the intumescence a defined margin, "but still without much redness, heat, or pain, unless in a point at the bend of the arm on considerable pressure, and on the outside of the elbow." † A knowledge, however, of the precise fact could have made little or no difference, nor ever can do so, in the mode of treatment, which must uniformly be founded upon the general process for diffuse inflammation, whether more or less complicated in its range.

It is on this account that Dr. Duncan has rather chosen to regard such wide-spreading phlogoses, whether of veins, fasciæ, tendons, or lymphatics, as mere modifications of what he has specifically called "Diffuse Inflammation of the Cellular Texture ‡," which, in truth, is in almost every instance more or less affected, and, in many instances, with gangrenous suppuration that knows no bounds. Perhaps this may be to generalise rather too much, and especially in the case of that very singular and more definite description of inflammation which takes place from contagion absorbed by a sore or wounded part in dissecting, and which the present author will be found, therefore, to have separated for a particular investigation under the name of *ERYTHEMA anatomicum* § ; but he is well aware of the difficulty of making even this distinction ; and of the tendency there is for the diffuse kind of inflammation we are now considering to run into every form, exhibit every variety of combination, be conjoined with every type of fever, and productive of every diversity of danger, from the peculiarity of the general or the local con-

\* Cl. III. Ord. iv. Gen. xi. Spec. II.

† Case of an inflamed Vein, Trans. Medico-Chir. Soc. Edin., vol. i. p. 443. 8vo. 1824. The later observations of Rose, Arnott, Cruveilhier, Andral, and others, have thrown considerable light on the nature of phlebitis. The researches of Cruveilhier, in particular, are of great value. — En.

‡ Ibid., p. 455.

§ Cl. III. Ord. II. Gen. vi. Spec. v.

stitution, the influence of the patient's habit of life, or some other incidental predisponent or concomitant.

Inflammation, therefore, is influenced by the nature of the part in which it takes place. It is also, as we have already observed, equally influenced by the nature of the constitution itself; and, thirdly, it is influenced by the nature of the remote cause. And we may add, that, where the inflammation is regulated by the constitution, and the constitution itself is healthy, specific irritants will not change the nature of the inflammation, but only determine its situation, extent, duration, or some other peculiar property. But where the constitution is unhealthy, or predisposed to any particular morbid action, as that of erysipelas, putrid fever, or plague (for some individuals receive even the plague much more readily than others), as soon as the specific virus is communicated, the disease will degenerate into a mixture of both, and discover its double source; it will give proof that a specific inflammation has been set down upon a constitution of a peculiar kind, and will partake of the nature of both. In consequence of which, the specific properties will by no means be so distinct or well formed, as if they were to appear in a sound and untainted constitution.

Thus, if the constitution have a tendency to fall into a state resembling that of typhus fever, and the small-pox attack it, the inflammation will be that of the small-pox combined with the constitutional disposition to typhus; which will so far affect the action of the small-pox as to interfere with the specific difference of its inflammation. In consequence of which, the pustules will spread, but not suppurate, and assume a livid hue, and perhaps prove fatal; while, if another person, possessing an uncorrupt, and, so to speak, unbiassed constitution, be inoculated even with this mixed virus, the variolous principle will separate itself from the principle with which it is combined, improve with the improvement of the new soil, and yield a crop of genuine and unadulterated pustules.

In like manner, vaccination is, generally speaking, a specific preservative against the small-pox. But it sometimes happens that it is not so, and that the small-pox is caught and makes its appearance many years after vaccination has been performed with all possible circumspection. And it generally happens in such cases, though not always, that a mixed or hybrid disease, a sort of degenerate small-pox, of a milder character than the true, is hereby produced.

The remarks just laid down will furnish us with a clear and sufficient clue to these singular and interesting facts. Some persons have a peculiar predisposition to small-pox, which is by no means easily eradicated, and far less so than in others. Vaccination, which permanently counteracts the predisposition among mankind in general, does not permanently counteract it here. It introduces a new but less rooted diathesis, and the former is rather suppressed than extirpated. In process of time the predisposition revives, re-acquires its anterior influence, and the moment it comes in contact with variolous contagion, subjects the system to small-pox. But while the variolous diathesis is thus again predominant, the vaccine diathesis has not altogether lost its hold; and the disease, as in the preceding cases, is a mixed product of both causes in co-operation, or rather in antagonism. It is small-pox, raised upon a constitu-

CLASS III.

ORDER II.

Phlogotica.

Inflammation, how far affected in its character by incidents.

Not changed by specific irritants in sound habits; but greatly changed in unhealthy, as are the specific irritants themselves.

Illustrated.

Farther explained from vaccination.

Application of these remarks to various singularities and apparent anomalies.

CLASS III.  
ORDER II.  
Phlogotica.

Inflammation  
always shows  
a tendency to  
the surface,

even in deep-  
seated parts.

Farther  
illustrated by  
eruptive fevers.

Whether cancer  
forms an excep-  
tion :

whether  
syphilis.

Hence healthy  
inflammation  
a remedial  
process : illus-  
trated by a  
brief review of  
its march.

tion not yet totally liberated from the influence of vaccination ; I say, "not yet totally liberated," because we occasionally meet with instances in which the constitution, little open to the impression of the vaccine disease, even when first communicated, becomes in time liberated from its influence altogether, and receives the small-pox, after vaccination, as freely as if it had never been vaccinated, and with a violence that proves fatal in a few days.

It is a wise and beneficent law of Providence, and affords an incontrovertible proof of the existence of an instinctive remedial power, that inflammation, wherever seated, is always more violent on the side of the inflamed point nearest the surface, and shows a constant tendency to work its way externally rather than internally. This law applies equally to the thorax, to the abdomen, and to parts which lie close to the different outlets of the body. Thus, if an inflammation attack the peritonæum covering an intestine, and adhesions are hereby produced between the two, the inflammatory action works upwards through the thick walls of the abdominal muscles, while the proper coats of the intestines, in most instances, remain sound. This, indeed, is not always the case ; for the inflammation may be so violent as to pass in both directions with great rapidity, or some accidental circumstance may force it inwardly ; but it is so common as to form a general rule. We see the same thing in the obstruction of the natural passage of the tears producing a fistula lachrymalis ; for here the ulceration points externally to the inner angle of the eye, while the inside of the nose defends itself by becoming thicker ; so much so, in many cases, as to block up the cavity of the nostril, and produce inosculation with the septum ; which has been an occasional cause of failure in the usual operation for this disease. \* We even find, that, if an abscess form in a frontal sinus from an obstruction in its duct, the matter will rather work its way externally through the frontal bone than descend into the nose. In like manner, if an inflammation attack the cellular membrane on the outside of the rectum near the anus, although the latter be in contact with the inflamed part, the inflammation will extend to the skin of the buttock, while the gut itself is often but little affected.

For the same reason, we behold eruptive fevers conducting the specific poisons which excite them, as small-pox, measles, rosalia, or scarlet fever, and even the plague itself, to the surface of the body, rather than throwing them on parts that are deep-seated and vital. The cancer is said to form an exception ; but even here the progress of the disease towards the surface is quicker than its progress towards the centre ; while syphilis exhibits something of a similar disposition, though not in an equal degree.

It appears, then, that simple or healthy inflammation is a remedial process for restoring a part to soundness when affected by a morbid impression that has a tendency to injure or destroy it ; and that the first stage of this process consists in the effusion of a coagulable lymph, which binds the weakened organisation into a closer bond of union, creates new vessels, and consequently introduces new life. If this effort do not succeed, and the morbid action still continue its progress, the affected part dies to a certain extent ;

\* See Hunter on Blood, Inflammation, &c. part ii. chap. ix.



but the coagulable lymph, which has been thrown out, and introduced new vascularity around it, still sets a boundary to the destructive career, and prevents it from spreading into the neighbourhood, or at least from spreading as far as it otherwise would do. When, however, a part is thus killed or destroyed, it becomes a substance foreign to the body, and must be removed, and have its place supplied by a formation of new living matter. The process of suppuration, which we shall explain under the genus *APOSTEMA*, prepares equally for the removal of the dead matter and the formation of that which is to fill up its post. This, however, is the progress of healthy inflammation alone; for, as already observed, in unhealthy inflammation, the morbid action will often run on to the ulcerative process, or last stage, at once; or the adhesive, or the suppurative, may intermix with it; or all may imperfectly take place together.

In attempting the cure of inflammation, our first endeavour should be, to obtain what has been called a resolution of the general enlargement: or, in other words, a restoration of the part to its state of former health, without the necessity of its going through the entire range of the inflammatory process. And, in doing this, we are to be guided by the principle of being able to make a new impression upon the part, and to oppose a healthy or remedial, to an unhealthy and mischievous action. The nature of the cause must hence be sedulously enquired into: for, till this is ascertained and removed, it will be in vain to expect that resolution can take place, and, where we can speedily accomplish such removal, resolution will often follow spontaneously; for the animal economy, having a disposition in itself to discontinue diseased action, such action will readily subside upon a disappearance of the cause that maintains it. And hence, by taking off the venereal action by the use of mercury, in the case of a bubo, the inflammation will gradually cease, provided no other morbid action has already arisen and united itself with the syphilitic.

Resolution, however, is not always to be attempted; for there are many cases in which the attempt would be in vain, and possibly a few in which it would be improper. It is not to be attempted in accidents, where there is a considerable exposure of the injured part, and still less in accidents where the part has been killed by their violence; for in these suppuration is the first natural step to a cure, and we cannot prevent it if we would.

Where inflammation arises from a morbid predisposition in the constitution, and belongs to the description which has been called critical, there is some doubt, and much demand for circumspection: and, in this case, resolution is called repulsion. If the inflammation be really a concentration of the constitutional complaint, which, by being driven from the part fixed upon, may be again diffused over the entire frame, and in waiting to fasten on some other part, it will often be better to encourage its stay. But the determination, even in this case, must be subject to the two following conditions: first, that the inflammation, so concentrated, will readily admit of a cure; and, next, that the part, on which it fixes, is not of vital importance; for, otherwise, the remedy may prove worse than the disease.

When resolution is determined upon, independently of removing the cause of the inflammation, we may advantageously follow up its

CLASS III.  
ORDER II.  
*Phlogotica.*

Remedial  
treatment.

Resolution  
its import.

When to be  
attempted.

When to be  
desisted from.

How dis-  
tinguished  
from repulsion.

CLASS III.  
ORDER II.  
Phlogotica.

effects by all the common modes employed for this purpose, according to the nature of the particular case. The undue degree of action may be diminished by bleeding and purging; the distention by local applications that tend to contract the diameter of the vessels, as cold, and metallie or other astringents; and, if along with the distention, there should be great pain, narcotics and relaxants will generally be found useful auxiliaries. To these in the present day are often added nausea and vomiting; the former of which operates by lowering the action of the vessels, the latter by giving a tendency to a new action. The nature of the case must determine our choice.\*

## GENUS I.

### APOSTEMA.

#### APOSTEME.

LARGE, SUPPURATIVE INFLAMMATION IN A DEEP-SEATED ORGAN;  
PUS COPIOUS AND CONFINED.

#### GEN. I.

Import of the  
generic term  
among the  
Greek and  
Latin writers.

THE term 'APOSTEMA is Greek, from ἀψίστημι, "diseedo," "ab-seedo," — whence the Latins employed ABSCESSUS, to express the same general idea. Yet they did not, strictly speaking, apply either abscessus or apostema to every suppurative inflammation, but only to those that were deep-seated, and of considerable extent; chiefly, indeed, to collections of pus consequent upon fevers, or some previous disorder of partiular parts, especially abdominal diseases. This limitation is accurately drawn by Celsus immediately after his description of struma, furunculus, and phyma. "Sed cum omnes hi nihil nisi *minuti abscessus* sint, generale nomen trahit *latinus vitium ad suppurationem spectans*. Idque ferè fit aut post febres, aut post dolores partis alieujus, maximèque eos qui ventrem infestant." † The term *abscess*, however, which was colloquially used in a loose sense in the time of Celsus, is used so much more loosely in our own day, that it is impossible to recall it to its precise and original meaning. Yet APOSTEMA has not been thus generalised; and it is here, therefore, laid hold of and restrained to the signification expressed in the generic definition; after the authority, indeed, of Sauvages, who has employed it with the same limitation.

How differs  
from abscess.

Apostema here  
recalled to its  
earlier mean-  
ing.

The genus apostema, in the arrangement before us, will be found to include five species: the first of which is common to most fleshy parts, and possesses a common character; while the remaining four

\* To these remedies should have been added mercury, one of the most powerful means of counteracting many forms of inflammation: perhaps, next to bleeding, it is the most important means, which the practitioner can avail himself of in the treatment of the generality of visceral inflammations. — Ed.

† Lib. v. cap. xxviii. § 11.

are distinguished by some peculiarity of character, attributable to their situation.

- |                      |                                 |
|----------------------|---------------------------------|
| 1. APOSTEMA COMMUNE. | COMMON APOSTEME.                |
| 2. ——— PSOATICUM.    | PSOAS ABSCESS.                  |
| 3. ——— HEPATIS.      | ABSCESS OF THE LIVER.           |
| 4. ——— EMPYEMA.      | LODGMET OF MATTER IN THE CHEST. |
| 5. ——— VOMICA.       | VOMICA.                         |

## SPECIES I.

### APOSTEMA COMMUNE.

#### COMMON APOSTEME.

INFLAMMATION COMMON TO THE FLESHY PARTS: PAIN OBTUSE: TUMOUR SPREADING EXTERNALLY: TENDER TO THE TOUCH: PUS LAUDABLE: READILY INCARNEING WHEN OPENED.

In whatever part an aposteme is seated, it will sometimes spread to a wonderful extent, and be loaded with a prodigious weight of pus. M. Balme gives us an account of an abscess that extended through the whole parietes of the chest and abdomen on one side, and reached from the scapula to the thigh\*; and Hildanus was present, when, upon opening a patient after death, twelve pints of pus were found effused from a visceral aposteme into the cavity of the abdomen.†

In all such cases, the first stage of inflammation, that of adhesion, must have been overshot in the violence of the action, or, from some other cause, the suppurative and ulcerative have commenced simultaneously from the first. For, otherwise, the coagulable, or, as Mr. Hunter prefers to call it, the coagulating, lymph thrown forth, as has been already explained, into the cellular membrane in the earliest stage of the inflammation, would have formed a boundary wall, by the production of new vessels and reticulations, much nearer to the salient point of inflammatory action, and confined the secretion of pus to a much narrower limit.

The secretion of coagulable lymph, and the reticulate adhesion and formation of new vessels which issue from it, is indeed designed, as has been explained already, to prevent the necessity of the suppurative and ulcerative stages of inflammation; and the natural cure of the adhesive stage is by resolution.

When, therefore, an aposteme takes place in a healthy frame, or, in other words, when the inflammation passes into the two ensuing stages of the suppurative and ulcerative, and pus is formed, and a cavity scooped out for its reception, we are to take it for granted, that the instinctive and remedial power of nature is incapable of producing a cure by the first intention; that some dead part or

GEN. I.  
SPEC. I.

Sometimes takes a wide range.

Whence this effect.

Adhesive inflammation designed to narrow the limits of aposteme.

Suppurative inflammation only follows where adhesion cannot produce a cure;

\* Journal de Medecine. &c. tom. xvii.  
VOL. II.

† Cent. ii. obs. 57.



GEN. I.  
SPEC. I.

Apostema  
commune.

for the purpose  
of removing  
some dead or  
foreign sub-  
stance. How  
such removal is  
accomplished.  
Two distinct  
actions neces-  
sary, so as to  
carry off the  
dead part and  
produce a  
substitute.

Striking proof  
of instinctive  
power. These  
effects how  
accomplished.

Action of the  
surrounding  
absorbents.

Action of the  
surrounding  
secerents.

Rupture of an  
aposteme.

extrinsic substance is required to be removed\*, and that the two ensuing stages of inflammation are had recourse to for this purpose.

In the formation, then, of an aposteme in a healthy constitution, we are to suppose, that some part of the organ in which inflammation occurs, as, for example, a piece of the muscle of an arm or a leg, is become dead, and an incumbrance to the living parts that surround it, instead of assisting in their office. In effecting, therefore, the important object of a cure, it is obvious that two distinct actions are necessary; the dead part must be carried off, and the loss must be filled up by a substitute of new matter, possessing the precise properties of the old. And, in the process which takes place to accomplish these two purposes, we meet with another clear and striking instance of that wonderful instinctive power which pervades every portion both of the animal and the vegetable world, and which is perpetually stimulating them to a repair of whatever evils they may encounter, by the most skilful and definite methods.

In order to comply with this double demand of carrying off the dead matter, and of providing a substitute of new, the absorbent and the secerent vessels in the living substance, immediately surrounding that which requires to be removed, commence equally, and nearly at the same time, a new mode and a new degree of action. A boundary line is first instinctively drawn between the dead and useless, and the living and active parts; and the latter retract and separate themselves from the former, as though they had been skilfully divided by a knife. This process being completed, the mouths of the surrounding absorbent vessels set to work with new and increased power, and imbibe and carry off whatever the material may be of which the dead part consists, whether fat, muscle, ligament, cartilage, or bone; the whole is equally sucked up and taken away, and a hollow is produced where the dead substance existed.

While this is proceeding, the mouths of the correspondent secerent vessels from the first, and perhaps somewhat antecedently, commence a similar increase and newness of action; and, instead of the usual fluid, pour forth into the hollow a soft, bland, creamy, and inodorous material, which progressively fills up the cavity, presses gradually against the superincumbent skin, in the gentlest manner possible distends and attenuates it, and at length bursts it, and exposes the interior to the operation of the gases of the atmosphere. From this period the process of incarnation commences: granulations of new living matter pullulate on every side, assimilating themselves to the nature of the different substances that are lost, till the hollow is sufficiently filled up, and the organisation completely regenerated.

\* The removal of "some dead part, or extrinsic substance," is not an essential circumstance in the formation of an abscess. The purulent matter is more commonly only interposed between parts, or diffused in their tissues, which are not to be looked upon as absolutely destroyed. It is chiefly on the principle of distention that the pus forms a cavity for itself; and, frequently, very soon after the abscess has been discharged or burst, the parts appear to be all perfect again, none of them being deficient. There may be, however, in some instances, sloughing, combined with suppuration; but these are not common apostemes; and, very generally, in a certain stage of the disease, ulceration takes place in order to bring the matter through the parts intervening between it and the cuticle. — ED.

On the bursting of an abscess externally, we occasionally find, that a portion of the dead matter still remains, which afterwards gradually sloughs away, or is thrown off by a separation at its base. This is particularly the case in furuncles or boils; and still more strikingly so in large abscesses that include bones, or the tendinous parts of muscles, which are more difficult of absorption, though even these are sometimes absorbed, and completely carried off.

The attenuation of the superincumbent integuments of an abscess appears to be produced by the stimulus of distention, occasioned by the pressure of the accumulating pus. And it is to the same stimulus that Mr. Hunter refers the absorption of the dead matter itself; conceiving that, for this purpose, the secretion of the pus commences somewhat earlier than the absorbent process.

The formation of pus, and consequently the existence of an aposteme, are evidenced by a cessation of the pain of distention, which gives way to a throbbing pain, synchronous with the dilatation of the arteries; and by irregular shiverings, and sometimes rigor. After a few days, a weight is felt in the part, the throbbing pain itself subsides, the tumour becomes soft, and, if it point sufficiently towards the surface, fluctuates to the touch.

There is some doubt to whom we are indebted for the first insight into this wonderful process; for it was taught at the same time, or nearly so, on the Continent by De Haen, Pleniz, and Schroeder, and, in our own country, by Hewson, Hunter, Home, Cruikshank, and Professor Morgan; but, upon the whole, Mr. Hewson appears to have taken the lead, and the rest to have followed closely in his steps. Antecedently to which period, pus, instead of being a peculiar secretion, was supposed to consist in a dissolution of the blood-vessels, nerves, muscles, and other solids, in the ordinary exhaling fluid when augmented by effusion; or in a conversion of the serum, thrown forth on the occasion, into the new matter, by a change effected in its gluten during its state of stagnation: the first of which hypotheses was that of Boerhaave\*, Platner†, and almost all who practised antecedently to their time: and the second that of M. Gaber ‡ and Sir John Pringle.§

\* Aphor., 387.

† Instit. Chirurg. sect. liv.

‡ Acta Taurinensia, vol. ii.

§ Treat. on the Diseases of the Army, App. Laennec and Gendrin are induced, by their researches, to consider suppuration as the result of a direct conversion of the coagulable lymph of inflammation, and of the fibrine of the blood, into pus. Laennec believed pus to be simply softened coagulable lymph. This is proved by analysis to consist, not only of the fibrine of the blood, from which it differs by its lesser consistency, but also of a small proportion of albuminous serum. It is supposed, therefore, to be formed of an intimate combination of the fibrine of the blood with a small proportion of albumen, rendered more viscid and coagulable by the vital influence of the inflammatory action, and deprived also of the colouring matter. The opinion that pus is formed directly from the blood by the fibrine simply undergoing some slight modifications in its properties during inflammation, is supported by various interesting experiments, detailed by Gendrin. (Hist. Anat. des Inflammations, vol. ii. p. 470.; Cyclop. of Pract. Med., art. INFLAMMATION; and Andral, Anat. Pathol., tom. i. p. 397.) In the Museum of the University of London is a heart, which contained a coagulum, in the centre of which was found a collection of pus. Andral maintains throughout all his pathological observations the theory of the blood having the power to form pus, even within the vessels of the living body as well as out of them. (Anat. Pathol., tom. i. p. 388.) Suppuration is certainly not always merely the conversion of a mass of extravasated blood, or coagulable lymph, into pus; for it

GEN. I.  
SPEC. I.

Apostema  
commune.

Sometimes a  
part of the  
dead matter  
remains after  
the abscess has  
burst.

Process of  
absorption of  
dead matter.

Commence-  
ment of  
suppuration  
how evidenced.

Economy of  
suppuration,  
by whom  
discovered.

Explanation  
chiefly due to  
Hewson. How  
accounted for  
antecedently.

GEN. I.  
SPEC. I.  
Apostema  
commune.

Pus proved by  
Hewson to be  
a secretion.

His view of the  
subject in one  
point errone-  
ous.

This point  
corrected, and  
the whole  
explanation  
improved by  
Hunter.

Ulceration  
as well as  
suppuration a  
link in the re-  
storative chain.

These conjectures were ingenious, but they were nothing more; and their errors are sufficiently pointed out in the "Experimental Inquiries" of Mr. Hewson, to whom physiology, and especially the science of morbid anatomy, is almost as much indebted as to any person whatever. He travelled, with a comprehensive mind, and a zealous and indefatigable step, in what was at that time new and untried ground; and, though he was mistaken in a few points, he correctly explored much, and, by the course he laid down, indicated to his successors the truest methods both of confirming his facts and correcting his misconceptions.

He proved decidedly, that pus is a peculiar secretion, and that it is often, indeed, secreted where there is no abscess or breach of surface; and he ingeniously accounted for its production by supposing it to be formed out of the coagulable lymph by a new power, given to the secretory vessels in consequence of the inflammatory action. "And if pus," says he, "in these cases, is produced merely by a secretion, so likewise it would seem probable that even in abscesses, where there is a loss of substance, it is not the melting down of the solids that gives rise to the pus, but the pus being secreted into the cellular membrane from its pressure, and from other causes, *deadens the solids and then dissolves them.*"\*

The idea of the solids contained in an abscess being deadened and dissolved by the pus which surrounds them, in the ordinary sense of the expression (for in one sense, as will appear hereafter, they may be said to be dissolved), was one of the erroneous opinions of Mr. Hewson to which I have just alluded; and originated from too close an adherence to the earlier and still more mistaken hypothesis we have just noticed.

And hence, with all his ingenuity, Mr. Hewson advanced not much more than half way in explaining the entire economy of suppurative inflammation. It remained for the exploring eye and commanding genius of Mr. Hunter to penetrate through a considerable portion of the remaining half of this curious process, and to prove that the solid parts, contained in the area of an abscess, instead of being deadened by the pressure of the surrounding pus, are dead beforehand, destroyed indeed by the violence of the accident or of the inflammation; and that, instead of being merely dissolved in the circumambient pus, they are absorbed and carried off by a new and increased action of the circumambient absorbents; thus showing, that even ulceration itself, when of a healthy kind,

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takes place both on the surface and in the interior of inflamed organs by a process analogous to secretion, through the medium of vessels, either previously in existence, or newly formed. It constitutes in this manner a new function, which sometimes lasts for a considerable period after the inflammation has subsided, as is seen in fistulous sinuses, chronic ulcers, &c. When pus is found in the vascular system, or in the blood itself, sometimes the veins, containing it, are returning from parts in which there are abscesses; but sometimes also without the latter occurrence. In cases of phlebitis, the formation of matter in various organs, viscera, and even the synovial membranes, more or less distant from the original mechanical injury or inflammation, is a subject which has of late years been investigated in a most interesting manner by Rose, Arnott, and Cruveilhier. The reader will find some views of the theory of suppuration, published by Dr. Benjamin Babington, well deserving of attention. — Ed.

\* Experimental Inquiries, part ii. p. 118.



is only another link in the restorative chain of nature, made use of on this occasion.

That pus, instead of being a mere solution of dead animal matter, is a distinct and peculiar secretion, is now known to most practitioners from personal observation, who must have witnessed it repeatedly in situations in which there has been no ulceration or breach of structure, and consequently where there could be no dead animal matter to dissolve.

It was noticed in this form by De Haen so far back as the middle of last century; and was pointed out by Mr. Hewson as frequently found, in dissections, on the surface of the pleura, the peritonæum, the pericardium, in a perfectly genuine state. A very decided case, to which both Dr. Hunter and Mr. J. Hunter were witnesses, was published by Mr. Samuel Sharp about the same time that De Haen first brought the subject before the public. Nothing is more common or more copious than the secretion of pus without ulceration in the first stage of purulent ophthalmia, and in purulent inflammation of the mucous membrane of the urethra; and I remember having attended, about twelve years since, a gentleman in Bedford Row, who had irritated this passage by improperly introducing a bougie into the bladder, and about three days afterwards, discharged with his water not less than half a pint of pure pus, which separated itself from the water, and subsided, and thus gave me an opportunity of examining it minutely. I requested Mr. Cline's attention to this case, and we saw not the slightest reason for suspecting any ulceration whatever.

Genuine pus is peculiarly distinguished by its consisting of white globules swimming in a fluid, which to the eye has the appearance of serum, but possesses characters of its own, equally different from those of serum and of every other secretion we are acquainted with; and which render it coagulable in a saturated solution of muriate of ammonia, which is its specific test. Pus, however, is not globular at its first formation, but a transparent fluid of a consistence in some sort resembling jelly: the globules are produced while it lies on the surface of the sore, usually, when not exposed to external air, in about fifteen minutes after its secretion. The perfection of pus seems to depend upon the large proportion which its globules bear to its other parts. It is specifically heavier than water, and approaches nearly to that of blood. [Professor Brande states its specific gravity to be about 1.030.] It has a sweetish, mawkish taste (apparently from its containing sugar), very different from that of most other secretions. After putrefaction it is acid. Dr. Brugginans, who has analysed it with much care, asserts that it contains an acid before putrefaction: but this has been denied by Sir Everard Home.\* [And it is also mentioned by Professor Brande, that it does not affect vegetable colours till it has been for some time exposed to the air, when it becomes slightly sour; nor does it easily mix with water, alcohol, or dilute acids.†] For a further account of its chemical properties, the reader may consult Dr. Pearson's elaborate paper.‡

GEN. I.  
SPEC. I.

*Apostema commune.*

That pus is a distinct secretion, notorious in the present day.

Often found where it can be nothing else.

Still further illustrated.

Singular discharge of pus from the urethra.

Distinctive character of genuine pus.

\* Dissertation on the Properties of Pus, p. 20.

† A Manual of Chemistry, vol. iii. p. 190.

‡ Phil. Trans., vol. for 1809, p. 313. See also a further description, under *Marasmus Pithiæ*, in the sequel of the present volume.

GEX. I.  
SPEC. I.  
Apostema  
commune.  
Granulation  
and incar-  
nation.

Change of  
organisation  
hypothetical,  
but perhaps  
correct.

Use of  
granulation.  
How it takes  
place,

and what the  
pullulations  
consist of,  
according to  
J. Hunter.

Two parts of  
the restorative  
process that  
still require  
explanation.

The use of the  
pus:

In the process of the natural cure of an aposteme, we find that the stage of granulation, and consequently of incarnation, immediately succeeds that of ulceration, or the removal of the dead matter. "The vessels," says Mr. Hunter, "forming themselves into a certain structure which fits them for secreting pus, it is so ordered that the same structure also fits them for producing granulations; and thus these two processes are concomitant effects of the same cause, which cause is a peculiar organisation superadded to the vessels of the part."\*

The idea of a change of organisation is hypothetical, but ingenious, and perhaps correct. Change of action and change of effect we know; but at the rest we can at present only give a guess, and must leave it to future times to ascertain.

The obvious design of granulation, or incarnation, as it is often called, is that of repairing the loss the parts have sustained by the injury done: it is that of producing new flesh. Granulation, like vegetation, takes place from the centre below, in a direction upwards towards the skin; and hence exactly contrary to the course of ulceration, which always begins in the superior part of an abscess. The process commonly succeeds best upon exposure to the air, or at least after an opening externally; though there are instances of its having occurred where there has been no exposure whatever. The granulating pullulations, according to Mr. Hunter's explanation, consist of exudations of coagulating lymph from the vessels. He conceives it probable, not only that the old vessels extend into these pullulations and become elongated, but that new vessels also form in them, and, like the old, still continue to secrete pus. The granulations, as they become formed, mutually and readily unite; inosculation or the attraction of cohesion is established between them; and their vessels thus joined are transformed from secreting into circulating tubes. Immediately upon their formation, cicatrisation seems to be in view. The parts which had receded, in consequence of a breach being made into them, begin now, from their natural elasticity, and, probably, from the contraction of the new created substance, to be brought nearer together; and the contraction of the sore proves a sign that cicatrisation is speedily about to follow. This contraction takes place in every point, but principally from edge to edge, which brings the circumference of the sore towards the centre; so that the exposed surface becomes smaller and smaller, even before there is any formation of a new skin.

There are two parts, at least, of this wonderful economy that still demand explanation. The first is, the real use of the pus after it is secreted; and the second, the means by which the absorbents carry off the dead matter. The same explanation may perhaps apply to both.

That pus is a peculiar secretion, distinguished by peculiar properties, and not a solution of the dead animal matter which it is the design of nature to remove, has already been sufficiently shown. "But I am apt to believe," says Mr. Hunter, "that we are not yet well, or perhaps not at all, acquainted with its use, for it is common to all sores; takes place in the most perfect degree in those

\* On Inflammation. — Of Pus, p. 433.

sores which may be said to be the most healthy, and especially in those where the constitution is most healthy." \* It forms, indeed, an exit to foreign bodies : is supposed by many to carry off humours from the constitution, or convert general into local complaints ; and, by others, to act as a preventive of numerous diseases. Yet all these services, even admitting them to exist, are but secondary, and the final intention still remains to be accounted for.

In like manner, since the dead matter of an aposteme does not constitute the pus that is found in it, and hence can only be carried off by absorption, we have yet also to learn by what means it becomes prepared for an entrance into the delicate mouths of the absorbent vessels. There is no small difficulty in conceiving how these very minute mouths can apply themselves with sufficient activity to the various tough and hard substances they have to remove, as tendon and bone, when in close contact with them ; but, as soon as the dead part becomes separated from the living, they are often no longer in close contact with them, except at the base, where there is little or no absorption at all ; and, in many cases, as in boils, carbuncles, and other imperfectly suppurating tumours, possessing cores or tenacious sloughs, are at a considerable distance from them, with the entire body of the contained pus placed intermediately in the hollow.

In the last case, it seems impossible for them to act except through the medium of the pus ; in reality, except through a solvent power possessed by the pus, and exercised upon the matter to be removed. And, if such be the nature of the action in this case, it is doubtless the nature of the action in all other cases ; and hence we arrive at one immediate and direct use of pus, which is, that of becoming a solvent of the dead animal matter that requires to be carried off : not, indeed, by converting the whole substance at once into a solid mass, and still less into a fluid mass of its own nature, as supposed by Sir John Pringle, but only the surface of the substance to which it is applied ; and which hereby is rendered fit for absorption, carried forward to the mouths of the imbibing vessels, and absorbed accordingly. And, as the same power is exerted in succession upon every fresh surface of the dead matter that becomes exposed to its action, the whole is at length carried away, and a cavity produced where before was solid substance.

That pus first kills and then dissolves the organised matter of an abscess was, as we have already seen, the opinion of Mr. Hewson. In the first part of this opinion he was completely mistaken ; for, as we have already observed, the organised matter is dead before the process of suppuration even commences ; in the second, he seems, to a certain extent, to have been correct, though he still erred in supposing the dead substance to be melted down into its own nature, and was unacquainted with the important process of its absorption. But, in advancing his own full and more elaborate hypothesis against the mistake of Mr. Hewson, Mr. Hunter ran into the opposite extreme ; and contended that pus is not designed to be a solvent at all, and that animal substances are decomposed in it with very great difficulty : thus leaving us totally at a loss to account for its use ; and equally so to explain the manner in which

GEN. I.  
SPEC. I.  
Apostema  
commune.

and how the  
dead matter  
becomes fitted  
for absorption.

These difficul-  
ties explained.

Pus possesses  
a solvent  
power: yet not  
of the kind  
supposed  
formerly; and  
hence one im-  
portant use of  
this fluid.

How far  
Hewson's view  
correct.

How far  
Hunter's view  
erroneous.

\* On Blood, &c. part ii. ch. v. p. 436.



GEN. I.  
SPEC. I.  
Apostema  
commune.  
Hunter's  
appeal to  
experiments.

The experiment  
apparently at  
variance with  
his conclusion.

Experiment of  
Home.

This experi-  
ment alike at  
variance with  
Hunter's  
conclusion.

Second use of  
pus to assist in  
the process of  
granulation.

the mouths of the absorbents of an abscess can operate upon, or even, in many instances, get at the material they are to remove.

Mr. Hunter, however, with the candour that so peculiarly belonged to him, made this question a subject of experiment, and the experiment, as he conceived, fully established his preconceived opinion; and gave proof that the pus of an abscess does not act as a solvent. This conclusion of his only shows how difficult it is for the most honourable mind, when biassed by a favourite hypothesis, to weigh with an even hand the evidence that lies before it. "To see," says he, "how far the idea was just, that dead animal matter was dissolved by pus, I put it to the trial of experiment, because I could put a piece of dead animal matter, of a given weight, into an abscess, and which could, at stated times, be weighed. To make it still more satisfactory, a similar piece was put into water, kept to nearly the same heat. They both lost in weight; but *that in the abscess most*. And there was also a difference in the manner, for that in the water *became soonest putrid*." \* There is nothing in animal chemistry, strictly so called, that decomposes animal substances so rapidly as putrefaction. And yet, in the present instance, the pus of an abscess evinced a more active decomposing power than the fluid of water, though aided by the accessories of putrefaction. It is not very wonderful that Mr. Hunter, though regarding this result as in his favour, should not be disposed to "rely on its accuracy," and he refers us, therefore, for a further proof, to a more competent experiment of Mr. (now Sir Everard) Home, which consisted in immersing a portion of muscle, weighing exactly one drachm, "in the matter of a compound fracture in the arm of a living man, and a similar portion into some of the same matter out of the body; also a third portion into fluid calf's-foot jelly, in which the animal substance was pure, having neither wine nor vegetables mixed with it. These portions of muscle were taken out every twenty-four hours, washed in water, weighed, and returned again."

The result of this experiment is still more in favour of the solvent power of pus than the preceding. At the end of forty-eight hours, there was indeed no great difference, as the muscle in the abscess was reduced to thirty-eight grains, and that in the other two fluids to thirty-six. But, from this period to ninety-six hours, the muscle in the jelly continued the same, while that in the abscess was reduced to twenty-five grains; and that in the exposed pus dissolved\*; the power of putrefaction, as Mr. Hunter observes, being, in this last case, superadded to that of the pus itself.

We hardly stand in need of other experiments. The solvent power of pus above that of water, of animal jelly, and hence, we may conclude, of animal fluids in general, is sufficiently established by the very evidence that is advanced in opposition to this power. And it should hence seem, that one at least of the direct uses of pus is to reduce, surface after surface, the dead animal matter which is exposed to its action to that state in which it may be rendered fit for absorption, and at the same time conveyed to the mouths of the absorbent vessels.

But I have for many years thought that it has also another equally

\* On Blood, &c. part ii. ch. v. p. 419.

† Dissertation on the Properties of Pus, p. 32.



important use: that, I mean, of assisting in the process of granulation; and a late article of Sir Everard Home, containing the observations of Mr. Bauer upon the germination of plants, and his application of those observations to the growth of the new vessels in animals\*, seems, if not to have settled the question, at least to have very considerably favoured this view of it.

Having sown a quantity of wheat, for the purpose of noticing the changes which occurred from the first, Mr. Bauer took up every day several grains or plants for examination till they were ripe; and, in the course of his attention, was much struck with the rapid increase of the tubular hair of the root of a young plant of wheat in its earliest stage of vegetation; and, fixing his view entirely to that part of the plant, he observed small pustules of a slimy substance, arising under the epidermis in the surface of the young root; and, in a few seconds, a small hubble of gas bursting from the root into the slimy matter, which it extended in a moment to the length the hair was to acquire; when the slimy matter surrounding the gas immediately coagulated and formed a canal. He repeated his observations on another plant, whose pubescence consisted of a jointed hair, and observed the same effect; a hubble issued from the young stalk, and extended the slimy mucus to a short distance, forming the first joint, which immediately coagulated and became transparent; and, at its extremity a new pustule of the same slimy matter accumulated, into which, in a short time, the gas from the first joint rushed: and thus, in a moment, a second joint was formed. In the same manner, he observed the formation of the hairs of ten or twelve joints take place.

Impressed with the importance of these facts, Sir Everard Home immediately began to enquire how far the same course is pursued in the production of new animal matter. He first ascertained, by experiments of Mr. Brande, already noticed in the Proem to the second class of this work †, that blood in a state of circulation contains a considerable proportion of air, which, in the process of its coagulation, escapes in the form of carbonic acid gas, and, in its escape, produces hubbles, as in the slime of plants; and that it escapes equally from the coagulating blood of veins and arteries, from effused serum, and from pus. And, in pursuing the subject, he found, that, on the coagulation of a drop of blood, placed in the field of a microscope, an intestine motion occurred, and a disengagement of a something took place in different parts of the coagulum: beginning to show itself where the greatest number of globules were collected, and from thence passing in every direction with considerable rapidity through the serum, but not at all interfering with the globules themselves, which had all discharged their colouring matter. Wherever this extricated colouring matter was carried, a network immediately formed, anastomosing with itself on every side through every part of the coagulum. When the parts became dry, the appearance of a network remained unaltered. In some instances, bubbles were seen to burst through the upper surface of the coagulum; this, however, did not prevent the ramifications that have been described from taking place. "When this happens,"

GEN. I.  
SPEC. I.  
*Apostema commune.*

Confirmed by  
experiments of  
Bauer:

and Home.

\* Phil. Trans., 1818, pp. 170—194.

† Vol. i. p. 597.

GEN. I.  
SPEC. I.  
Apostema  
commune.

continues Sir Everard, "in living animal bodies, from whatever cause, and in whatever circumstances it takes place, no difficulty remains in accounting for its afterwards becoming vascular, since all that is necessary for this purpose is the red blood being received into the channels of which this network is formed." He next proceeded to the subject immediately before us. "As the globules of pus," says he, "are similar to those of blood, I made experiments upon the fluid in which they are suspended, and found inspissation produce the same effect on it as coagulation does on the other; that a similar network is formed, and apparently by the same means; since, if pus be deprived of its carbonic acid gas (of which it contains a large quantity) by exhaustion in the air-pump, no such network takes place."

Other experi-  
ments neces-  
sary: but the  
present nearly  
decisive.

Additional experiments are still necessary upon this interesting subject; but, so far as they go, they seem very clearly to indicate the important and double use to which pus is subservient; that it acts as a solvent upon the dead matter, preparing it for absorption, and as a fomes for granulation and the production of new vessels.

No incongruity  
in these two  
qualities inher-  
ing in the same  
substance.

Nor let it be observed, in opposition to this conclusion, that we are thus endowing it with incongruous and contrary qualities; and that, if it be erosive in the one instance, it cannot be nutrient in the other; for the animal economy presents us with various examples of like effects, contrary, indeed, but not contradictory, produced by one and the same secretion on dead and on living matter, for which we need go no farther, than to the very common operation of the gastric juice; which, while the most powerful solvent of dead animal matter in the whole range of animal chemistry, is a healthy stimulant to the living stomach, and even to other living organs; and has successfully been applied externally for this purpose by surgeons, to weak and ill-conditioned ulcers, and employed by physicians as an internal tonic in cases of dyspepsy and cardialgia.

Illustrated by  
the qualities of  
gastric juice.

## SPECIES II.

### APOSTEMA PSOATICUM.

#### *PSOAS ABSCESS.*

PAIN AND TENSION ABOUT THE LOINS, SHOOTING DOWN THE SPINE AND THIGHS; DIFFICULTY OF STANDING ERECT; FLUCTUATING ENLARGEMENT ALONG THE PSOAS MUSCLE; APEX OF THE TUMOUR IMMEDIATELY BELOW THE GROIN.

GEN. I.  
SPEC. II.  
Primary seat of  
the disease  
difficult to be  
determined.

THIS is one of the most lamentable diseases we can ever be called upon to attend. It commences insidiously, and, at the same time, in parts so deeply seated as to render it very difficult to determine the place of its origin; and hence the psoas muscle itself, the cellular substance interposed between the peritonæum and the loins, the lymphatic glands, and the lumbar vertebrae, have been pitched upon by different writers. It is probable that most of

these have formed the primary seat of affection in different cases, and that the inflammation has subsequently spread to one or more of the other parts: and hence, assuming no inconsiderable degree of latitude, M. Chaussier denominates the disease *Femoro-coxalgie*.

[The cellular substance behind the peritonæum, or about the psoas muscle, is now ascertained to be the most common seat of the abscess in its commencement. When the spine becomes earious in consequence of the pressure of an abscess, it has been correctly observed by Mr. Brodie, that the symptoms are different from those which attend a caries of the spine, commencing in the spine itself. For instance, the paralytic affection of the lower extremities is generally absent. Caries of the vertebræ and intervertebral cartilages, however, is sometimes the primary disease\*, and the abscess the subsequent one. This case would be characterised by the peculiar paralysis of the legs, resulting from original caries of the vertebræ and disease of their ligaments and cartilages.] The pain, attending the formation of lumbar abscess, is at first by no means violent, and the patient thinks lightly of it; it is sometimes felt in the back rather lower than the region of the kidneys; and generally extends down the thigh. [The testicle of the affected side is frequently retracted, and more or less uneasiness and pain are felt in the course of the spermatic cord. A very little exercise fatigues the patient, who mostly inclines the trunk forward, and in bed generally keeps the thigh of the affected side bent, a relaxed state of the psoas muscle being the most easy to him. The symptoms frequently continue stationary a long time. At length, a change occurs, indicated by rigors, loss of appetite, and followed by considerable acceleration of the pulse. Soon afterwards the fluctuating tumour presents itself.] From the deceptive manner of its attack, medical treatment, which might have been of essential service at first, is fatally postponed; and the symptoms are regarded as those of an accidental strain. After the abscess is formed, however, the pain, in most cases, increases considerably, and, in common instances, the matter follows the course of the psoas muscle, and points externally a little lower than the inguinal glands; or it passes down the thigh, where, however, it is apt to dis sever the muscles and form sinous abscesses. Sometimes, though rarely, the matter passes through the muscles of the back, and is discharged in the loins; and, in a few instances, it has been known to fall into the cavity of the back part of the pelvis. The abscess, on account of its great extent, is highly dangerous: an extent which it generally attains ere it points externally, or admits of being discharged. Hence, the patient very frequently sinks under a hectic fever, produced by the local irritation; while in most cases, in which it has made a natural opening for itself, it has been found connected with so many deep sinuses, which cannot be followed up, that the same effect ensues.

[It is a curious fact, in relation to this subject, that psoas abscess should rarely be met with in the United States of America. Professor Gibson saw only four cases of the disease during thirteen years, although professionally connected with extensive hospitals and almshouses most of that time. Dr. Physick never met with a

GEN. I.  
SPEC. II.  
Apostema  
psoaticum.  
Femoro-cox-  
algie of  
Chaussier.

Progress of the  
disease.

Abscess may  
discharge itself  
by different  
outlets.

Highly danger-  
ous: and often  
productive of  
fatal hectic.

\* See Brodie's Pathological and Surgical Observations on the Diseases of the Joints, pp. 301-302, ed. 2.



GEN. I.  
SPEC. II.  
Apostema  
psoaticum.

Medical treat-  
ment rarely of  
avail.

Surgical  
treatment  
discrepant.

Suggestion as  
to the real  
cause of  
danger.

case of psoas abscess in America, unconnected with disease of the spine.\* If these statements coincide with the experience of other practitioners in America, they are highly interesting, as affecting the question, whether, as is generally supposed in England, the psoas abscess is necessarily connected with a scrofulous constitution ?]

No mode of medical treatment has been found productive of any good purpose ; and the case has been, in a very early stage of the suppuration, given over to the surgical practitioner. Yet even here different individuals have pursued different lines of conduct. [Kirkland believed that the patient had the best chance of recovery when the abscess was allowed to burst of itself, and *discharge itself very gradually by a small outlet*. The latter precept has been found to be one of great importance.] Mr. Bell advises an early evacuation of the matter, lest the bones should become injured ; while Mr. Abernethy apprehends less danger from its being suffered to remain, and at last evacuates it at different intervals, and by successive operations : by which means the cyst, in which the pus is principally lodged, may have an opportunity of contracting ; and this, he thinks, it has a greater tendency to do than in abscesses where the inflammation is more violent. He is also attentive to close the opening the instant the matter is discharged, so as to prevent any increase of the inflammation by an access of air.

The real cause of danger does not seem to have been hitherto hit upon ; but it may probably be referred to that tendency to a rapid spread of inflammation over their entire surface, which Mr. Hunter has shown to exist in all internal cavities, and the hazard of which is in proportion to the extent of the cavity ; a subject already touched upon in the discussion of puerperal fever, and which we shall have other opportunities of illustrating as we proceed, particularly in some cases of varicose enlargement of the veins. Now, in the disease before us, we have not, it is true, any natural cavity, but we have an artificial cavity of long standing, and large extent, in a highly irritable state, and which is therefore peculiarly predisposed to run into all the fatal effects of large natural cavities, when injured or otherwise rendered imperfect. The author throws out this hint, however, for future and general consideration.

[Mr. Crowther relates a few cases in which psoas abscesses were dispersed by the application of large blisters to the swelling, which were kept open with the savin cerate. The same practice, combined with the occasional employment of emetics, was also recommended by Mr. Abernethy.]

\* Gibson's Institutes and Practice of Surgery, vol. i. p. 214. Philadelphia, 1821.



## SPECIES III.

## APOSTEMA HEPATIS.

*ABSCESS OF THE LIVER.*

DIFFUSE PULSATING TUMOUR IN THE REGION OF THE LIVER,  
PRECEDED BY PAIN, A YELLOW COUNTENANCE, AND SHIVERING.

[THE ordinary symptoms, besides those spoken of in the definition, are, swelling and tension of the right hypochondrium, sometimes extending beyond it; pain in the right side, much aggravated by inspiration or pressure, and occasionally shooting up to the shoulder. In the case recorded by Dr. O'Brien, there was also great weakness of the right arm; a pale, anxious countenance, without yellowness; pulse 120, small and feeble; and no vomiting.\* Much doubt having been expressed by some physicians, whether true laudable pus could be formed in the substance of the liver, that distinguished pathologist, C. P. A. Louis, investigated the question, and, in the dissection of 430 subjects, met with five cases of hepatic abscesses, all of which presented genuine purulent matter.† It appears also from his dissections, that the abscesses are frequently encysted, and that the neighbouring portion of the liver is sometimes softer, but sometimes more indurated, than natural. In the cases of encysted abscesses, examined by himself, he could not decide positively whether they preceded, or were the consequence of, a dissolution of a greater or lesser number of tubercles; but he inclines to the latter opinion. In one very interesting case, reported by this author, the patient had voided large quantities of blood from the anus, and, after death, a clot of blood was found in a cyst in the liver; from which part, it is inferred, the blood had passed into the intestinal canal. As no communication could be traced, however, between the cavity and the biliary ducts, the conclusion appears questionable.‡ A common complication of abscesses of the liver seems to be a softening and ulceration of the mucous membrane of the bowels, especially that of the large intestines, the same affection of the lining of the small ones

GEN. I.  
SPEC. III.

Diagnosis.

Pathological  
facts.

\* Trans. of Physicians in Ireland, vol. i. p. 44.

† Louis, Mém. et Recherches Anatomico-Pathologiques, p. 352. 8vo. Paris, 1826. The fluid, discharged from an abscess connected with the liver, by Mr. Caesar Hawkins, was not like common pus, but thick and adhesive, of a dark yellowish-green colour, and of a peculiar, though not offensive, smell; and, upon being mixed with nitric acid, it appeared to contain biliary matter. (See Med. Chir. Trans., vol. xviii. p. 100.) In another case the matter was thin, of a light brown colour, and could scarcely be called purulent. (Op. cit., p. 106.) In these two instances the abscesses were only connected with the liver, and not in it. The punctures were followed by ulceration and sloughing of the skin, hemorrhage, and a destruction of nearly the whole thickness of the abdominal parietes. The disease had, in each patient, been preceded by symptoms of inflammation of the liver, and, after death, the cavity in which the matter had collected was so far obliterated, that it was difficult to decide positively where the fluid had been situated. The further particulars of these cases will be found interesting by the pathological enquirer. — Ed.

‡ Louis, op. cit., p. 385.

GEN. I.  
SPEC. III.  
Apostema.  
hepatis.

not being very frequent, except in phthisis pulmonalis, and fevers. The mucous coat of the stomach in some cases had red specks on it, was much softened, and, in certain places, incompletely ulcerated. Abscesses of the liver are mostly not single, but more or less numerous. Their general fatality is partly ascribed by M. Louis to the liver not having, perhaps, the power of repairing the mischief, as he never observed traces of cicatrization in it. Yet this inference seems to be contradicted by the cures which are upon record.\*]

This is also a very fatal disease, and usually terminates in one of the following ways :

Terminates  
variously.

Firstly, The substance of the liver is gradually and almost entirely absorbed from long-continued irritation; the melancholy accompaniments of which are, a tedious icterical marasmus, hectic fever, great anxiety, and a sanious and fœtid diarrhœa, which is the forerunner of death.

Extensive ab-  
sorption of the  
liver.

[In one example, recorded by Dr. O'Brien, the abscess extended over two thirds of the liver, the biliary ducts were nearly annihilated, and all but one sixth of the gall-bladder destroyed.† In another case, reported by Professor Gibson, he says that, upon dissection, the fistulous orifice in the side was traced into the liver, or rather into its remains; for its substance had disappeared, and nothing of its structure could be found, except a shell, or cyst, somewhat larger than an egg, and filled with brownish matter.‡]

Abscesses and  
diseases of great  
extent.

The aposteme  
may open into  
the cavity of the  
abdomen.

Secondly, The abscess breaks internally, and discharges itself into the belly; by which means the rest of the viscera are affected, and the termination is marasmus, ascites, and dissolution.§ According to M. Louis, this mode of evacuation only takes place in chronic hepatitis.||

The pus may  
find a passage  
into the intes-  
tines.

Thirdly, The pus sometimes finds a passage into the biliary ducts, and thence into the intestines; from these it is occasionally thrown into the stomach, and vomited in the form of a dark offensive material: but far more generally it is carried downward, and produces a violent looseness. Acids and ascrescent medicines may here palliate for a time; but the issue is always fatal.

The aposteme  
may burst ex-  
ternally.

Fourthly, The enlarged liver becomes, in some cases, united by adhesive inflammation to the peritonæum, and the abscess opens externally; and, in this case, there is a chance of cure. The openings should be expedited by a caustic or the knife: and the cure will greatly depend upon the nature of the fluid which is discharged.

The pus may  
be carried off  
sometimes by  
absorption.

Fifthly, There is reason to believe that, in a few rare instances, the matter is carried off by absorption, when a healthy granulation takes place, and a cure is completed without any opening. This termination is more reasonably to be expected in a constitution

\* Louis, op. cit., p. 385—394. 408.

† See Trans. of Physicians in Ireland, vol. i. p. 48. The editor opened the body of a woman about three years ago, where the same morbid changes were noticed. A very small portion of the fundus of the gall bladder remained, and at least two thirds of the liver were occupied by abscesses. The preparation, which is now in his possession, will shortly be sent to the museum of the London University. — Ed.

‡ Institutes of Surgery, vol. i. p. 211.

§ The ordinary effect of such passage of the matter into the cavity of the abdomen is a rapid and fatal degree of peritonitis. — Ed.

|| Mém. et Recherches Anat. Pathol., p. 372.

otherwise sound, and where the liver has not been weakened or rendered torpid by any former affection. It is hence rather to be looked for in a temperate than in a tropical climate, and in youth than in advanced life.

[Sixthly, In certain cases, the matter of the abscess has made its way by ulceration through the diaphragm, and been either effused in the chest, or, opening a communication with the bronchiæ, been coughed up from the lungs. In hot climates, where acute and chronic hepatitis are very common complaints, abscesses of the liver are often noticed. In Great Britain they do occur, but not very frequently, except in those who have returned from a long residence in warm latitudes. The liver may suppurate, however, from other causes besides common hepatitis, as from blows or injuries of the head\*, biliary concretions, phlebitis†, and the presence of worms in the biliary ducts.‡ In the Surgical Museum of the University of Pennsylvania is a preparation in which the substance and ducts of the liver are filled and perforated in every direction by numerous and very large lumbrici. The patient, a child, fell a victim to the irritation and suppuration.§]

When the cure takes place without an opening, it is not always an easy matter to determine for a certainty that pus has actually been formed. But sometimes we can trace a fluctuation; and, at other times, the subsidence of the tension, pain, and pulse, after one or two severe shivering fits, may be regarded as sufficient indications. In a case of this kind that occurred to me in a young gentleman of about thirteen years of age, the shivering was so considerable as to make the teeth chatter; and, within eight-and-forty hours, the pulse sunk from a hundred and forty to a hundred and twenty; and the abdominal tension and tenderness were considerably abated; as was also the distressing cough with which he had almost perpetually been harassed for some weeks. He was put upon a tonic plan of columbo and sulphuric acid immediately after this change, and recovered gradually.

[In India, the rapidity with which inflammation of the liver frequently proceeds to suppuration, has sometimes been so great as scarcely to admit of time for the employment of antiphlogistic remedies. As Dr. O'Brien observes, this should never be neglected in chronic hepatitis, even where mercury may subsequently become necessary; and he commends general bleeding, and the use of cupping and leeches. In this country, surgeons rarely open abscesses of the liver in an early stage; but, in India, the contrary practice is said to prevail, and to be found the most advantageous.]

\* Quesnay, in *Mém. de l'Acad. de Chir.*, tom. i. p. 147. *Bertrandi de Hepatis Abscessibus*; *Œuvres Chir. de Desault*, tom. i. Also a valuable paper by Mr. Rose on depositions of pus, &c. in the viscera, after injuries of different parts, in *Med. and Chir. Trans.*, vol. xiv. p. 251, &c. The fact of abscesses of the liver arising from injuries of the head is doubted, however, by the very eminent pathologist, M. Louis. See his *Recherches Anat. Pathol.*, p. 405. The editor suspects that the frequency of the occurrence from this particular cause has been exaggerated by writers.

† See Cruveilhier, *Anat. Pathol.* Andral refers to a case in which an abscess of the liver communicated with the interior of the vena cava; and to another in which the matter made its way into the pericardium. *Précis d'Anat. Pathol.*, tom. ii. p. 598. — Ed.

‡ See Kirkland's *Inquiry into the present State of Medical Surgery*, vol. ii. p. 186. Also Bond, in *Med. Obs. and Inq.*, vol. i. p. 68.

§ See Gibson's *Institutes of Surgery*, vol. i. p. 209.

GEN. I.

SPEC. III.

*Apostema hepatis.*

May pass into the chest, and enter into the bronchiæ.

Causes of suppuration of the liver.

Not always easy to detect pus when no opening.

Yet the symptoms often sufficient to decide.

Early antiphlogistic remedies.

In India abscesses of the liver opened early.



## SPECIES IV.

## APOSTEMA EMPYEMA.

## LODGMET OF MATTER IN THE CHEST.

FIXED PAIN IN THE CHEST: BREATHING LABORIOUS, BUT EASIEST IN AN ERECT POSITION; DIFFICULT DECUMBITURE ON THE SOUND SIDE; FLUCTUATING ENLARGEMENT ON THE SIDE AFFECTED; DRY, TICKLING COUGH.

GEN. I.

SPEC. IV.

Symptoms noticed by Hippocrates.

Not always a sequel of pneumonia, as presumed by Cullen.

Sometimes produced by the bursting of a vomica.

Diagnostics of percussion and the stethoscope.

Vomicæ burst into the chest.

To the symptoms, enumerated in the above definition, Hippocrates adds\*, œdema of the feet, hollowness of the eyes, and a gurgling sound on shaking the shoulder. Of these additional signs, the first two belong rather to the hectic fever that generally accompanies empyema, than to the disease itself. The last has sometimes been met with in modern times.† Dr. Cullen regards empyema as a mere sequel of pneumonia, which, with him, includes inflammation of the pleura, as well as of the lungs; but as it may take place from inflammation of the mediastinum, pericardium, or diaphragm, to say nothing of that from external injuries, and as it is often doubtful what particular organ is directly injured, a separate species seems decidedly called for.

An empyema is sometimes produced by the bursting of a large vomica of one of the lungs into the cavity of the pleura: in which case, the cough becomes more frequent than before this result, and is either dry, or accompanied with a scanty, frothy, and noisy expectoration. The breathing becomes extremely difficult, with repeated fainting fits, and the dew of a cold sweat hanging over the throat and forehead; the cheeks and lips are of an ominous red, while the nails are livid, the pupils dilated, and the sight dim.

If percussion or the stethoscope be employed, before the vomica has broken, to the part in which the matter is seated, little or no sound will be returned, in consequence of the pressing fulness which exists there ‡; but, if these methods be resorted to afterwards, it will be found restored, in a considerable degree, to the part affected, from the hollowness which now exists there, while it will be comparatively found diminished in the posterior and inferior parts of the chest to which the discharged load is transferred. For the history and relative value of these diagnostics, the reader must turn to the treatment of PNEUMONIA.§

[Laennec does not seem to approve of the application of the term empyema to the bursting of a large vomica into the chest. "I

\* *Περὶ Παθῶν*, pp. 476. 496.

† Trécourt, *Mémoires de Chirurgie*, &c.

‡ Dulness of sound on percussion, and absence of the respiratory murmur on the diseased side, which remains perfectly motionless. Puerile respiration in the opposite lung, accompanied with increased action of the respiratory muscles, and frequently a displacement of the heart, descent of the diaphragm, and protrusion of the abdomen. — Ed.

§ Cl. III. Ord. IV. Gen. III. Spec. V.



apprehend," says he, "no one now considers empyema as the product of a vomica, which has burst into the cavity of the pleura. A softened tubercle may, indeed, discharge its contents in this manner, and may thus become the cause of a considerable effusion, by exciting a chronic pleurisy; but, in such a case, the tuberculous matter must only be considered in the light of an extraneous body, determining inflammation, and consequent effusion, by its mechanical or chemical qualities. It is also to this species of pleurisy that we must refer those histories of lungs entirely destroyed by suppuration, which we find recorded in the older writers."\* In this country, however, whatever may be the principal source of the purulent fluid in the cavity of the pleura, the term empyema is employed. In acute pleurisy, besides an effusion of coagulating lymph, a serous fluid is poured out, which is of a light yellow colour, and transparent, or with its transparency only slightly lessened by the intermixture of small fragments of concrete pus or lymph. In the latter case, it resembles unstrained whey. The fluid is generally devoid of smell. Many physicians suppose, that, in acute pleurisy, no effusion takes place till after some days; but Laennec declares, that he has several times observed all the physical signs of effusion; that is aërophonism †, and absence of the respiration and sound on percussio, in one hour from the commencement of the disease, and he has seen the side obviously dilated at the end of three hours. On the other hand, he does not remember to have met with a single case, in which the effusion was doubtful under the stethoscope during the first and second day. The utmost that he admits on this point is, that the effusion continues to increase for several days, and that it is only at the end of this time that it becomes too manifest to be overlooked, from the dilatation of the affected side, and the total absence of sound on percussio. He is convinced, that the effusion of serum is contemporaneous with inflammation in all serous membranes. ‡ The fluid effused is generally absorbed after the inflammation has subsided; and it is only when it remains in such quantities as to occasion very urgent symptoms, that any operation should ever be contemplated for its discharge.

The disease, which Laennec represents as producing the most common species of purulent empyema, is chronic pleurisy, of which he describes three kinds: 1st, that which is chronic from its origin; 2dly, acute pleurisy, become chronic; 3dly, pleurisy complicated with certain organic productions on the surface of the pleura, bearing a gross resemblance to cutaneous eruptions.

According to Laennec, chronic pleurisy does not differ essentially in its anatomical characters from the acute: the pleura, however, is generally of a deeper red, and the serous effusion is more abundant, and almost always less limpid, being mixed with small albuminous flocculi. In chronic pleurisy, the extravasated fluids have a more fetid smell than in the acute, and often yield a strong alliaceous odour, analogous to that of gangrene.§ The effusion is

GEN. I.  
SPEC. IV.  
Apostema em-  
pyema.

Quality of the  
fluid in acute  
pleurisy.

Time of its  
effusion.

Chronic pleu-  
risy as produc-  
ing empyema.

Morbid appear-  
ances of the  
pleura in chro-  
nic pleurisy.

\* On Diseases of the Chest, p. 448. ed. 2. tr. by Forbes.

† A tone or echo of the voice, distinguished with the stethoscope; and so named by Laennec, from its having a trembling or bleating sound, like the voice of a goat.

‡ Laennec on Diseases of the Chest, p. 423—425. ed. 2. by Forbes.

§ The fluid effused in acute pleurisy is of a pale yellow or straw colour, and

GEN. I.  
SPEC. IV.  
Apostema em-  
pyema.

Other changes.

Pus not always  
to be referred to  
any particular  
organ.

Instances of  
metastasis.

Matter some-  
times makes its  
way outward  
between the  
ribs.

rendered daily more considerable. The affected side becomes manifestly larger; the intercostal spaces grow broader, and rise to a level with the ribs, and sometimes even higher. The lung, compressed towards the mediastinum and spine, and retained in this position by pseudo-membraneous exudation, is sometimes so reduced in size as not to be more than four or six lines thick, even in its middle. In this state, the pulmonary tissue is soft, pliant, and dense, without any crepitation, more pale than natural, and almost without blood; yet the alveolar texture very distinct.\*]

Modern researches prove, that collections of pus in the chest frequently occur without any appearance of ulceration. To such cases Mr. Hewson has several references. "The cavities of the pleura, pericardium, &c." says he, "are sometimes observed to contain considerable quantities of pus without the least marks of ulceration. In one patient I found three pints of pure pus in the pericardium, without any ulcer either on that membrane or on the heart. In another, the cavity of the pleura of the right side was distended with a pus that smelt more like whey than a putrid fluid, and the lungs were compressed into a very small compass: but there was no appearance of ulcer or erosion, either on these organs or on the pleura; but only under the pus was a thin crust of coagulable lymph." We have already made some observations upon this secretion of imperfect pus, and it is not necessary here to dwell upon it.

Numerous cases are recorded, in which the contained fluid has disappeared. It has passed off by the intestinal canal†, by the bladder‡, and by the vagina§, in the form of pus. It has also been frequently carried off by an opening formed by nature, and the patient has recovered his usual health. This opening has commonly been between the ribs; most usually between the third and fourth, but in one instance we find the abscess pointing and bursting under the scapula.|| [The escape of effused fluid through

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generally a little turbid, from an admixture of coagulable lymph. In chronic pleurisy, the fluid is not only in larger quantity, but of a consistence approaching to that of common pus, and generally mixed with flakes of coagulable lymph. However, as Dr. Townsend has observed, it is not always easy in practice to determine *a priori* the precise nature of the fluid collected within the chest, as its physical characters are found to vary considerably, even in those cases that most closely resemble each other in their origin, progress and symptoms. Cyclop. of Pract. Med., art. EMPYEMA. — Ed.

\* As in empyema the matter is usually contained in only one side of the chest, its pressure sometimes displaces the heart. The editor has seen several examples, in which a considerable quantity of fluid in the left sac of the pleura has caused such a change in the position of the heart, that its pulsation could only be felt on the right side of the sternum. The pus, however, may be circumscribed by the adhesive inflammation, and then this effect will not be produced. In the case lately published by Mr. Woolley, the heart pulsated on the right side, in a situation precisely corresponding to what it ought to have occupied on the left. This was in a child between five and six years of age, that was cured by paracentesis alone. (Med. Gaz. for Nov. 1833, p. 318.) Such displacement is one of the least fallible symptoms of a collection of fluid in the chest. — Ed.

† Kelner, Diss. de Empyemate, Helm. 1670. Marchetti, Obs. 82. 89.

‡ Buchner, Diss. sistens solutionem Empyematis per mictionem purulentam. Hal. 1762. N. Act. Nat. Cur., vol. i. obs. 5.

§ Schlichting, Phil. Trans., vol. xlii. p. 70.

|| Hurten, Diss. de Empyemate. Argent. 1679.

the intercostal muscles from gangrene of a portion of the pleura is regarded by Laennec as very rare. He says that he has only seen one case of it himself, and that M. Recamier has not seen more than two; and with respect to another mode in which the fluid finds vent, namely, in consequence of the formation of an abscess in the intercostal spaces, and its rupture both externally and internally, Laennec has only met with a single case of this kind. Andral reports three others. There can be no doubt, from the numerous examples on record, that these events are much more common than Laennec imagined. Dr. Forbes expresses his belief, that, in cases of chronic pleurisy, the escape of the matter through the walls of the chest is by no means very uncommon. He has himself met with more than one instance of it. Laennec states, that a cure has, perhaps, more frequently followed the evacuation arising from these kinds of abscesses, than from an operation. The cure, however, is not always complete; as a fistula is apt to remain, frequently kept up by a caries of the ribs.\*]

Morgagni has recorded a singular case of a double empyema; a lodgment of pus being formed on both sides †: and Balme a still more extraordinary case, in which the pus entered the cellular membrane and spread over almost the whole trunk. ‡

Dr. G. Hawthorn has given an instance of this disease that, for its severity and danger, and particularly for its successful issue, is well worth recording. § The patient was thirty years of age, and the disease had been brought on by exposure to damp night air in a state of intoxication. He suffered greatly from quickness of pulse, incessant cough, oppression, and dread of suffocation. A distinct fluctuation was perceived in about three weeks from the attack; shortly after which he was a little relieved by a discharge of purulent matter effused into the bronchial cells, and expectorated to the extraordinary amount of five or six pounds daily, for many days in succession, a fluid of an intolerably offensive smell, and putrid appearance. He continued, however, to grow worse and weaker; his feet and legs swelled; his countenance was ghastly, and he had colliquative sweats. About twelve weeks from the attack, the operation was performed; nearly twenty pounds of pus was discharged on the first day and night; and he gradually recovered. ||

[The evacuation of the matter by the bronchiæ is stated by Laennec ¶ to be more common than that through the intercostal muscles. The fact, he believes, was first clearly established by Bayle. It scarcely ever occurs but in chronic pleurisy; though Andral relates one example of it in the acute disease. \*\*

GEN. I.  
SPEC. IV.  
Apostema empyema.

Double empyema. Ramifying over the entire trunk.

Singular case by Hawthorn.

\* See Laennec on Diseases of the Chest, p. 435. ed. 2.

† De Sed. et Caus. Morb., Ep. xxii. art. 13.

‡ Journ. de Médecine, tom. lxi. p. 244.

§ Edin. Med. and Surg. Journ., No. lxi. p. 513.

|| A patient, under Dr. Croker of Dublin, was tapped for an empyema, and fourteen pints of pus were discharged from the left cavity of the pleura. In Dr. Archer's case of successful paracentesis of the thorax (Trans. of Dubl. Assoc., vol. ii.), eleven pints of inodorous fluid were drawn off, and, in a few weeks, the patient was convalescent. The interior of the pleura in such cases is almost always lined by a pseudo-membrane, such as constitutes the cyst of an abscess.

— Ed.

¶ Op. cit., p. 436.

\*\* Clinique Médicale, tom. ii. obs. 36.



## GEN. I.

## SPEC. IV.

Apostema empyema.

Cases requiring the operation.

The symptoms, indicating the propriety of an operation are, the dilatation of the affected side; œdema of the same side and arm; depression of the liver, and displacement of the heart towards the side free from fluid. Laennec has shown, however, that all these symptoms may be absent; and it even frequently happens, that at the very time when an operation is proper, the affected side, although full of pus, is smaller than the opposite one, in consequence of the absorption which has already taken place. But, in all such cases, the results of percussion and auscultation leave no doubts respecting the effusion.\* Laennec points out two cases of pleurisy, requiring that an operation should be performed for the discharge of the fluid from the chest. The first is when, in an acute pleurisy, the effusion is very copious from the beginning, and increases so rapidly as to give rise, after a few days, to general or local anasarca, and to threaten suffocation. The second is a chronic case, either in consequence of a pleurisy originally chronic, or of the acute disease changed into this state. In such circumstances, when œdema of the affected side has come on, when the long continuance of the disease, the progressive emaciation and debility of the patient, and the failure of every measure employed to produce absorption, leave nothing to be expected from other means, the operation is warrantable.]

Advice of Hippocrates. Where the opening should take place.

When the fluid is discharged by paracentesis, Hippocrates repeatedly urges the surgeon to evacuate it only by degrees †: and Borelli gives a case in which the patient seems to have sunk under a sudden evacuation.‡ There has also been no small discussion, concerning the part of the thorax to which the scalpel may be most advantageously applied. David advises near the sternum§; Mr. Sharp between the sixth and seventh ribs ||; Mr. Bell wherever the pain or fluctuation may direct.¶

Warner's success and mode of practice.

Mr. Warner, whose success made it, many years ago, a favourite operation in our country, seems to have been of Mr. Bell's opinion, and varied the point of opening according to the nature of the case. And so little danger did he apprehend from the use of the scalpel on any occasion, that he not only evacuated in all instances the whole of the matter at once, but, in one or two examples, operated where there was neither a polarised pain, nor fluctuation, nor visible discolouration, nor any external sign whatever to direct him to one part rather than to another, or even to determine the real nature of the disease, otherwise than from the specific symptoms laid down in the preceding definition.\*\*

Evacuated the whole of the contained pus at once.

Usual mode of treatment.

In Mr. Warner's cases, about twenty ounces of pus formed the average of discharge at the time of the perforation ††: the patients usually found instant relief; the pain, cough, and quickness of pulse diminishing, and the breathing becoming easier. He dressed the wound with a sponge tent till there was no longer any discharge, and afterwards superficially; and, in about six weeks,

\* Laennec, Op. cit., p. 475.

† *Περὶ Νοσήων*, ii. p. 476. l. 42. *Περὶ τῆς ἐθιγῆς Παθῶν*, p. 536. l. 15.

‡ Cent. i. obs. 72.

§ Mem. pour le Prix de l'Academie, x.

|| Critical Enquiry, &c. chap. vi.

¶ Surgery, vol. ii. 390.

\*\* See Original Cases and Dissections, &c. by John Forbes, M.D., p. 257. 8vo. Lond. 1824.

†† See Phil. Trans., vols. xlvii. xlviii. li., as also his works in their collected form.



the patients were cured. In this case, it is, perhaps, more necessary to keep the wound open, than in any other operation; for otherwise the secreted pus is apt to accumulate, and the operation must be renewed.

[The following remarks by Professor Laennec are interesting. The place of election, he says, commonly adopted by surgeons for this operation, is the most depending point in the anterior and lateral parts of the chest: a rule that cannot be good always, because the most dependent point varies with the position of the patient. The natural posture of a patient, affected with empyema, is to lie on the diseased side; and, in this case, the most depending point is the space between the fifth and sixth ribs. Many other reasons, Laennec observes, point out this spot as the best. For instance, we know that the upper lobe adheres to the ribs more frequently than any other part of the lungs, and that the lower lobe is frequently attached to the diaphragm. On the right side, we know, that an enlarged liver frequently reaches as high as the sixth, or even the fifth rib; and that, on both sides, the thickest false membranes, and consequently adhesions, exist at the junction of the diaphragm with the walls of the chest. Finally, we know, that the greatest portion of the effused fluid is collected about the middle of the side. The best point is a little anterior to the digitations of the serratus major. Should there chance to be any old adhesions in this point, we shall readily discover them by means of some remains of respiration over their place.\* But if, on percussion, the sound be dead at this spot, and the sound of respiration be wanting, we may safely make an incision.] Riedlin operated with success twice on the same person.†

The matter, when discharged or examined on dissection has been found of very different consistences: sometimes like what Laennec has described; sometimes pure pus; sometimes cheesy; and sometimes gelatinous. And the mischief to the interior of the chest has, in some cases, been very great. Several of the ribs have been found carious‡; the lung on the affected side totally eroded§; and, in one case, the pericardium destroyed as well as the lung. The morbid changes, described by Laennec, have already been noticed.

[Owing to various causes, the operation is generally unsuccessful. 1. The first of these, as specified by Professor Laennec, is the bad condition of the lung itself, which is frequently tuberculous. 2. The irritation of the pleura, by the entrance of air into the chest, has been considered the chief cause of the great and offensive discharge, which too often ensues and destroys the patient. The ad-

GEN. I.  
SPEC. IV.  
Apostema empyema.

Laennec's reasons for making the incision between the fifth and sixth ribs.

Matter discharged of various appearances and qualities.

Causes of the frequent ill success of the operation.

\* Under such circumstances, the place for the incision should be varied. In one case of this description, Laennec, after making an incision through the integuments, over the space between the fifth and sixth ribs, introduced a trocar; but no fluid came out. The patient died; and in the *post mortem* examination, it was found, that the instrument had entered the cavity of the abdomen, after transfixing the diaphragm, which had been pushed upward by an enlarged liver, and had become firmly adherent to the seventh rib. A similar accident occurred in LAENNEC'S practice. — Ed.

† Lin. Med., Ann. v. obs. 30.

‡ Heusermann, *Vermischte Bemerkungen*, vol. ii. p. 217.

§ Kehler, *Dis. de Empyemate*. Helmst. 1670.

¶ Gockel, *Gallicinium Medico-pract.*

GEN. I.  
SPEC. IV.  
Apostema em-  
pyema.

mission of air into the chest, Laennec admits, must affect the action of the organs contained in it; but its immediate impression, he says, is not on the pleura, which, in acute pleurisy, is covered with lymph, and, in chronic, with thick pultaceous matter. 3. The greatest impediment to the success of the operation is, in Laennec's opinion, the compression of the lungs against the spine and mediastinum, and the nature of the investing false membrane. The lung, from the long compression, has lost its elasticity and expansibility, the inspired air penetrates it with difficulty, and the original dimensions of the organ are very slowly recovered. Indeed, it never returns to its natural size. Hence, with a view of favouring the expansion of the lung, Laennec had it in contemplation to revive the plan of exhausting the air from the chest with cupping glasses: a plan best accomplished with a syringe, as advised by Mr. Jowett, and formerly recommended by Scultetus and Ancl.\*

### SPECIES.V.

## APOSTEMA VOMICA.

### VOMICA.

DERANGED FUNCTION OF A THORACIC OR ABDOMINAL ORGAN;  
SUCCEEDED BY A COPIOUS DISCHARGE OF PUS INTO SOME  
PART OF THE ALIMENTARY CHANNEL; AND ITS EVACUATION  
BY THE MOUTH OR ANUS.

GEN. I.  
SPEC. V.  
Comprehensive  
use of the term  
by Celsus here  
copied.

THE specific term is a derivative from the Latin *vomo*, "to eject," especially from the stomach, but not exclusively so; and hence, on the present occasion, it is used in the comprehensive sense in which it is employed by Celsus, who applies it to a bursting of pus from the liver, or any other large internal organ, as well as the lungs. † Sauvages follows Celsus in this interpretation, but distinguishes the vomica from the aposteme, by making the discharge from the latter consist of pure pus, and that from the former of a mixed matter, being at first a sort of adipose mucus (*mucus quidam adiposus*), which at length becomes purulent. Avenbrugger, to whom we are indebted for the *Inventum novum*, or method of ascertaining diseases of the chest by percussion, takes nearly the same range, or, rather, carries it to a still wider extent, so as to include other depositions than that of genuine pus, and hence divides vomicae into purulent and ichorous, meaning by the latter term the reddish yellow fluid occasionally found in a sac from the destruction of a hepatized or scirrhus lung or other organ. ‡ Boerhaave and Cullen confine vomica to the lungs, and this in a more restrained sense than most writers; for they limit it to what has been called, though with no great accuracy, *occult vomicae*, "*vomicae clausæ*." Linnæus

How employed  
by Avenbrug-  
ger.

Employed in a  
more restrained  
sense by  
Boerhaave and  
Cullen.

\* See Laennec on Diseases of the Chest, p. 476—479. ed. 2. by Forbes.

† De Medecin., lib. iv. cap. viii.

‡ *Inventum Novum ex percussione thoracis humani, ut signo, abstrusos interni pectoris morbos detegendi.* Vien. 8vo. 1761.

and Vogel, on the contrary, while they confine the term to the lungs, explain it by *open vomica* "*vomica apertæ*," in which the pus is thrown forth profusely and suddenly. One termination of the hepatic aposteme may be regarded as a variety of this species, for, as we have observed, it sometimes issues in a discharge of pus by the mouth or rectum. [Dr. Good supposed that pulmonary vomica consisted in conglobate glands, first enlarged by a strumous congestion, and afterwards slowly and imperfectly suppurating. Others have described them as abscesses, the result of inflammation. On the contrary, Professor Laennec sets down an abscess in the lungs from inflammation as an extremely rare case; as at least a hundred times as rare as a true vomica. He represents vomica as the result of the softening of a tuberculous mass of large size, and that the copious expectoration, usually taking place after their rupture, is the secretion from the sides of the large tuberculous excavation.\*] Vomicae are not, however, always so large as described by this author; they vary in size, from the diameter of a millet seed to that of an orange. The smallest rarely contain any fluid, and sometimes not even a cavity; (in which state, indeed, the editor conceives they are only tubercles;) but they are often highly irritable, and maintain a very considerable degree of hectic fever. When ulceration has taken place, and pus is secreted, the irritability frequently subsides; the pulse improves, the febrile exacerbations are less frequent and violent, and the patient flatters himself he is recovering. The vomica at length bursts and disabuses him; he sinks gradually from the quantity of the daily discharge, and the confirmed hectic; or, if the disease be seated in the lungs, and the cavity extensive, he may be suffocated by the volume of pus that overwhelms the trachea.

Bartholine gives a singular case of an occult vomica of the lungs, that, accompanied with an asthma, produced great emaciation; but was fortunately cured by the wound of a sword, the point of which passed between the ribs and opened the sac. A considerable flow of pus followed, and the patient recovered gradually from the time of the accident.†

The methods of percussion and mediate auscultation are now very generally resorted to on the Continent, and in our own country, to ascertain the existence and extent of this affection when seated in the chest; the theory and employment of which the reader will find explained at some length, under the treatment of PULMONIS.‡

GEN. I.  
SPEC. V.

Apostema  
vomica.

And still  
differently  
by Linnæus  
and Vogel.

May be related  
to the hepatic  
aposteme.

Vomica in the  
lungs originates  
in a tubercle.

Varies in size.

Patient some-  
times flattered  
into a false  
hope of  
recovery.  
Sometimes  
suddenly  
suffocated.

Singular case  
of cure.

Application of  
the methods of  
percussion and  
auscultation.

\* Laennec on Diseases of the Chest, p. 354 ed. 2. by Forbes.

† Hist. Anat., xiv. cent. 6.

‡ Cl. m. Ord. iv. Gen. m. Spec. v.



## GENUS II.

## PHLEGMONE.

## PHLEGMON.

SUPPURATIVE, CUTANEOUS TUMOUR; TENSIVE; GLABROUS; PAINFUL; AT LENGTH FLUCTUATING, AND BURSTING SPONTANEOUSLY; THE PUS UNIFORM AND GENUINE.

GEN. II.  
General  
character of  
phlegmon.

UNDER the last genus, we took a general survey of the process and economy of suppuration, and noticed many of the most extensive and dangerous forms in which suppuration ever presents itself. We are now advancing to inflammatory affections, consisting of tumours of small extent, and either entirely confined to the integuments, or dipping but a little way below them.

In what sense  
used by the  
Greeks;

The term phlegmon, from *φλέγω*, “inflammo,” was used among the Greeks for inflammation generally. It has long since, however, been employed in a far more limited sense by medical writers of perhaps every school; though few of them have given a very clear definition of the exact sense in which they have intended to use it; or perhaps have formed such a sense in their own minds. Thus Dr. Cullen makes it comprise a multitude of tumours or tubercles of different degrees of inflammation, some suppurative, some unsuppurative, some scrous, some callous, some fleshy, some bony; as boil, minute pimple, stye, stone-pock, abscess of the breast, and spina ventosa, or carious bone; with many others altogether as discrepant; while, by Sauvages, it is limited, and far more correctly, to spheroidal tumours, possessing redness, heat, tension, violent throbbing pain, spontaneously suppurating. Not, indeed, essentially different from the character now offered, and involving most of its species. Vogel, however, makes it a part of its generic character, that the inflammatory tumour, in order to be a phlegmon, must be at least as large as a hen's egg; while Dr. Turton, in his useful glossary, not knowing how to reconcile the clashing descriptions which are thus given of it, merely explains it, after the Greek manner, “an inflammation,” leaving the reader to determine the nature of the inflammation according to his own taste.

loosely em-  
ployed in  
modern times:

by Cullen;

by Sauvages;

by Vogel;

by Turton.

More correct  
meaning.

It is necessary, therefore, to come to something more definite; and I believe that the character now offered embraces the common idea of phlegmon; or, if not, will propose what should seem to form a boundary for it. And, thus explained, it will comprise the following species:—

- |                        |                         |
|------------------------|-------------------------|
| 1. PHLEGMONE COMMUNIS. | PUSH.                   |
| 2. ————— PARULIS.      | GUM-BOIL.               |
| 3. ————— AURIS.        | IMPOSTHUME IN THE EAR.  |
| 4. ————— PAROTIDEA.    | PAROTID PHLEGMON.       |
| 5. ————— MAMMÆ.        | ABSCCESS OF THE BREAST. |
| 6. ————— BUBO.         | BUBO.                   |
| 7. ————— PHIMOTICA.    | PHIMOTIC PHLEGMON.      |

[By other writers, phlegmon is described as inflammation of the cellular membrane of any part of the body; but, as this tissue is also affected in erysipelas, the definition fails. The editor, in his surgical writings, always understands, by phlegmonous inflammation, the healthy simple form of this affection, particularly when situated near the surface of the body. But there is every reason to presume, that an inflammation of a similar character often affects many of the deeply seated parts. Such an opinion, he believes, will be found to agree with the doctrines inculcated, and the facts pointed out, by Mr. Hunter.\*]

GEN. II.  
Phlegmone.

## SPECIES I.

### PHILEGMONE COMMUNIS.

#### PUSH. COMMON PHILEGMON.

TUMOUR COMMON TO THE SURFACE; BRIGHT RED; HARD; DEFINED; HEMISPHERICAL; POLARIZED; GRADUALLY SOFTENING AND BURSTING AT THE POLE.

In vernacular language, this species is denominated a *push*; and, in size, has a near approach to a boil, or furuncle; but essentially differs from it in having its pus uniform and mature, while that of the boil is always intermixed with a core. It is commonly a mark of high tonic health, or a phlogotic diathesis; and rarely requires any other medical treatment than bleeding, or a few cooling purgatives.

GEN. II.  
SPEC. I.

Where, however, pushes appear in crops, and especially in successive crops, they support a remark we had occasion to make in opening the present order; that, in conjunction with the phlogotic diathesis, there is probably a peculiar susceptibility of irritation; since we frequently find persons in the highest health, with firm and rigid fibres, pass great part, or even the whole of their lives, without any such affection as the present. Such susceptibility is far more common, indeed, to a habit of an opposite character; but it seems from this, as well as from other circumstances, not unfrequently to inhere in the temperament we are now contemplating.

How differs  
from a boil.

General  
character.

Habit in which  
it often occurs.

\* See Hunter on the Blood, Inflammation, &c. No.

## SPECIES II.

## PHLEGMONE PARULIS.

*GUM-BOIL.*

TUMOUR SEATED ON THE GUMS; DEEP RED; HARDISH; UNDEFINED; PAIN OBTUSE.

GEN. II.  
SPEC. II.  
General  
character.

THIS is sometimes limited to the substance of the gums; and sometimes connected with a caries of a tooth or socket. In the first variety, it is a disease of only a few days' duration, and ceases almost as soon as it has burst, or is opened: in the second, it will often continue troublesome till the carious tooth is extracted, or the diseased socket has exfoliated; or the whole of its texture is absorbed; in which case the tooth will become loose, and may at length drop out spontaneously.

Suppuration  
to be en-  
couraged,

Gum-boils, and especially when connected with a morbid condition of the subjacent teeth, or their alveoli, rarely disperse without passing into the suppurative stage: and hence, the means of prohibiting this termination are usually tried in vain, much time is lost, and protracted pain encountered. For these reasons it is better to encourage, than to repel, the suppurative process, by warm cataplasms or fomentations; and to open the tumour as soon as it begins to point. An early opening is of importance; for, from the toughness and thickness of the walls of the abscess, it is seldom that the confined pus obtains a natural exit with sufficient freedom; while, in some instances, the ulceration assumes a sinuous character, or works into the substance of the cheeks, and at length opens on their external surface. The worst and most painful gum-boils are those which form on the dentes sapientiæ; the swelling, from the violence of the irritation, spreads rapidly and widely; so that the entire cheek is sometimes involved in it, the neck indurated, and the eye closed.

and the tumour  
soon opened.

Gum-boil  
where severest.

## SPECIES III.

## PHLEGMONE PAROTIDEA.

*PAROTID PHLEGMON.*

TUMOUR SEATED UNDER THE EAR; REDDISH; HARD; PAIN OBTUSE; SUPPURATION SLOW AND DIFFICULT.

GEN. II.  
SPEC. III.  
Where arranged  
by Cullen.

It is not a little singular, that Dr. Cullen, who extends the genus of phlegmone wide enough to embrace, not only inflammation of the ear, and of the breast, gum-boil, and phimosis, but also furunculus, varus, gutta rosea, sty, and, as already observed, several affections of the bones, should have banished suppurative inflammation of the



parotid and inguinal glands, not only to another genus, but to a very remote part of his system; where they occur in the class and order of *local tumours*, in company with warts, corns, and sarcomata, which have naturally no inflammatory character. Here, too, they are conjointly described under the generic name of *bubo*, with the generic character of "*glandulæ conglobatæ tumor suppurans*;" a definition which does not apply to the parotid gland, whose structure is not conglobate, but conglomerate. The present, therefore, is the proper genus for including suppurative inflammation of the parotid and inguinal, as well as of the mammary, glands.

Phlegmonous inflammation of the parotid gland offers us the two following varieties:—

- |                             |                                     |
|-----------------------------|-------------------------------------|
| α Simplex.                  | Incarnating and cicatrizing easily. |
| Simple parotid phlegmon.    |                                     |
| β Maligna.                  | Accompanied with a foul slough,     |
| Malignant parotid phlegmon. | and incarnating with difficulty.    |

In the *SIMPLE OR BENIGN VARIETY*, though the suppurative process is slow and inactive, the incarnation subsequent upon the breaking of the abscess is regular and unobstructed. I was requested, not long ago, to see a young lady of fifteen years of age, who had been troubled with this species of phlegmon for more than three months: there had been, for about a fortnight, an evident pointing towards the surface, and a feel of irregular fluctuation: it afterwards broke; a large quantity of good pus drained away daily; and the tumour, which, at first, was extensive and hard, by degrees very considerably diminished, and clustered or divided into lobes, and at length disappeared altogether. Her general habit was relaxed, but did not seem to be strumous. She had menstruated earlier than usual, and was of a disposition peculiarly sprightly and cheerful. The local treatment, at the commencement, was leeches, frequently applied, and alternated with mercurial plaster. But no benefit proceeding from the discutient plan, lotions of water and liquor ammoniæ acetatis, in equal parts, were afterwards employed to aid the suppurative process.

The abscess, in some cases of this variety, is of considerable magnitude, and consequently the discharge of pus very large. And we have some instances on record in which the pus has been absorbed, and carried off by metastasis to some remote organ. Dr. Saunders gives a case in which it passed away by the rectum\*; Alix, by a fontinel at the navel†; and the Transactions of Natural Curiosities, by the bladder,‡ It has sometimes been confounded with parotitis or mumps; and has hence been said to sympathise with one or both testicles in males, and to be contagious. Cavallini has made this mistake in his collection of surgical cases§; and we find a like error in the Memoirs of Toulouse,||

The *SECOND VARIETY* of parotid phlegmon is of a malignant character. It seldom appears in early life, and in females sometimes follows the cessation of the catamena. It is still slower in its progress than the preceding; and when at length it breaks, the

GEN. II.  
SPEC. III.  
Phlegmone  
parotideæ.  
loosely and  
incorrectly.

α P. parotideæ  
simplex.  
Process, though  
slow, regular  
and healthy.  
Illustrated.

Abscesses  
sometimes  
very large.  
Pus sometimes  
removed by  
metastasis.  
Examples.  
Has been  
confounded  
with mumps.

\* Observations on the Red Peruvian Bark.

† Obs. Chirurg., Fascic. i.

§ Collezione di Casi Chirurgici, vol. i. p. 417.

|| Histoire et Mémoires de l'Académie de Toulouse, tom. i. 1782.

† Vol. i. obs. 39.

GEN. II.  
SPEC. III.  
β P. parotidea  
maligna.  
Termination.  
Treatment.

It has been  
extirpated in a  
scirrhus state  
when of great  
weight.  
Treatment.

pus is imperfect and cheesy, or serous. It is also profuse, and protracted to a long period, and accompanied with foul sloughs. The patient is debilitated by the discharge, the irritation excites hectic fever, and the case frequently terminates fatally. Bark, hyoseyamus, conium, and similar tonics and narcotics, have been tried; but for the most part with little success.

It assumes, occasionally, a scirrhus hardness, and grows to a considerable extent. It has been extirpated, but with variable success, when upwards of three pounds in weight \*; sometimes with a cure †; but, at other times, it has degenerated into a foul, bleeding, extensive, and fatal ulcer. ‡

## SPECIES IV.

### PHILEGMONE MAMMÆ.

#### ABSCCESS OF THE BREAST.

TUMOUR SEATED IN THE BREAST; PALE-RED; HARDISH; IN IRREGULAR CLUSTERS; WITH A PRICKING AND ACUTE PAIN; SUPPURATION QUICK AND COPIOUS.

GEN. II.  
SPEC. IV.  
How formed.

Usually a  
combination  
of separate  
sinuses:

THIS is sometimes produced by some accident, as that of a blow or severe pressure; but more generally proceeds from a redundancy and consequently undue stimulus of milk, when first secreted after child-birth, so that the lacteal tubes have not time to enlarge sufficiently for its reception: in which last instance it is usually called MILK ABSCESS. [Professor Gibson conceives, that one of the most common causes of the mammary abscess, is the custom prevalent, among nurses, of feeding women, after delivery, upon nutritious, high-seasoned, and stimulating articles, instead of letting them observe a proper regimen, calculated to obviate inflammation.§] “In either case the suppuration commonly begins in many distinct portions of the inflamed part; so that it is not one large circumscribed abscess, but many separate sinuses, all of which generally communicate. Now it usually happens that only one of these points externally, which being either opened, or allowed to break, the whole of the matter is to be discharged this

\* Kaltschmied, Pr. de Tumore scirrhuso trium cum quadrante librarum glandulæ Parotidis extirpato. Jen. 1752.

† Siebold, Parotidis scirrhusæ feliciter extirpatæ Historia. Erf. 1791.

‡ Commere. Lit. Nor. 1733-8.

§ See Gibson's Institutes of Surgery, vol. i. p. 205. Philadelphia, 1824. Also Sir Astley Cooper's Illustrations of the Diseases of the Breast, p. 9. “Its principal cause,” he says, “is the rush of blood which takes place each time the child is applied to the bosom, and which by nurses is called the draught, and is the preparatory step to the secretion of milk. Such occasional, irregular, violent, and frequent determinations of blood, produce inflammation; and the necessary frequent exposure of the bosom in suckling, as well as the active exertions of the child in sucking, add to the occasional irregularities of the circulation. The nurse also often produces these abscesses immediately after lying in, by refusing to put the child early to the breast, and stimulating the mother with strong drinks.” — Ed.

way. But we sometimes find that the matter does not obtain a ready outlet by this opening, and then one or more of these different sinuses make distinct openings for themselves."\*

In this case the complaint is usually protracted and tedious, though, where the constitution is good, the issue is always favourable.

[Mr. Hey has described one variety of mammary abscess, which proceeds more slowly to suppuration than ordinary cases. The matter is often discharged by several openings, which become fistulous and lead to narrow sinuses, that wind in every direction in the breast. When these sinuses are laid open, they appear nearly filled with a soft purple fungus.† Unless properly treated, it is a case that has little chance of cure.]

In the early stage of phlegmonous inflammation of the breast, resolution should be attempted by means of leeches, gentle suction of the breast with the mouth or nipple-glass; purgatives and low diet.‡ But, if suppuration occur, the progress of the matter to the surface should be expedited by fomentations and warm poultices.§ When the matter is deeply seated, and approaches the surface very slowly, and the patient is much reduced by severe pain and sleepless nights, an opening becomes necessary.|| The poultice must be continued until the discharge nearly ceases, and then superficial dressings will complete the cure. If sinuses remain, the pressure of a well-applied roller will soon obliterate them. In the variety described by Hey, he recommends laying open all the sinuses; but Professor Gibson has found that, in two very extensive and obstinate cases, the milder plan of passing a seton into each of the sinuses accomplished a cure.¶

With respect to the question, whether the child should be weaned, the following is Sir Astley Cooper's advice. "If the abscess be small, the child may be put to the diseased breast, as well as the other; but, if much of the mamma be involved in the

GEN. II.  
SPEC. IV.  
Phlegmone  
mammaræ.

and hence  
often opens  
in separate  
outlets.

Whence the  
cure tedious.

Mammary  
abscess with  
numerous  
winding  
sinuses and  
fungi.

Treatment.

Whether the  
child should be  
weaned.

\* Hunter on Blood, p. 469.

† See Hey's Practical Obs. in Surgery, 3d edit. p. 522.

‡ Evaporating lotions, and purging with sulphate of magnesia, or castor oil. If cold applications fail to give relief, a tepid poultice, and leeches occasionally. Sir Astley Cooper.

§ Bread poultices, made with the decoction of poppy-heads. — Ed.

|| If the abscess be quick in its progress, placed in front of the breast, and the suffering not excessive, Sir Astley Cooper leaves it to take its natural course. But if the matter be very deeply situated, its progress tedious, the pain very great, the irritative fever considerable, and the patient suffers from profuse perspiration, and want of rest, he prefers discharging the matter with a lancet. "Still it is wrong to penetrate with the lancet through a thick covering of the abscess, as the opening does not succeed in establishing a free discharge of matter; for the aperture closes by adhesion, the accumulation of matter proceeds, and ulceration will continue. On this account, the opening should be made where the matter is most superficial, and the fluctuation is distinct, and it should be in size proportioned to its depth." Op. cit., p. 10. — Ed.

¶ Institutes, &c., vol. i. pp. 206. 207. Sir Astley Cooper recommends the sinuses to be injected with a solution of two or three drops of strong sulphuric acid in an ounce of rose water, and to apply a similar lotion to the bosom by means of linen wetted with it. (Illustrations of Diseases of the Breast, p. 11.) For the dispersion of the hardness of the breast, left after milk abscesses, friction with iodine ointment, or camphorated mercurial ointment, or the application of the emplastrum ammoniaci cum hydrargyro, is the common practice. — Ed.



GEN. II.  
SPEC. IV.  
Phlegmone  
mammarum.

disease, the child should be put to the other breast; but that which is inflamed should be drawn by the mother herself, by means of the glass tube constructed for the purpose. As the pump, which is sometimes employed, bruises the breast, and gives much pain, it ought not to be used. As a general rule, it is best to continue the child at the breast, as long as the mother's sufferings will admit of it." \*

## SPECIES V.

### PHILEGMONE BUBO.

#### BUBO.

TUMOUR SEATED IN A CONGLOBATE GLAND; REDDISH; HARD;  
DIFFUSE; NOT EASILY SUPPURATING; OPENING WITH A  
CALLOUS EDGE.

GEN. II.  
SPEC. V.  
Term whence  
derived.

BUBO is a Greek termed borrowed from the Hebrew verb בָּעָ (bo or bo), importing "to swell," and merely doubled according to the analogy of the language, to give it an intense or superlative power, whence bobo, or bubo.

Ordinary seat.  
Causes.

Buboes are chiefly found in the inguinal and axillary glands. They are sometimes simple glandular inflammations, unconnected with any constitutional or foreign evil, and require nothing more than the common treatment; but they are often a result of constitutional affection, and very frequently a symptom of lues and pestis, in which cases they can only be cured by curing the specific taint. Mr. Hunter asserts, that he has seen buboes cured by vomits, after suppuration has advanced.

Cured by  
vomits.

Has been  
confounded  
with a scrofu-  
lous tumour.

In an early stage, the inguinal bubo has been confounded with a scrofulous tumour. A nice finger will generally discriminate them with ease. The bubonous tumour is smooth, uniform, and obtusely painful: the scrofulous is so to the touch, and sometimes to the eye, a cluster of small tubercles without pain.

\* Op. cit., p. 12.

## SPECIES VI.

## PHLEGMONE PHIMOTICA.

## PHIMOTIC PHLEGMON.

TUMOUR SEATED IN THE PREPUCE; DIFFUSE; OBTUSELY PAINFUL; IMPRISONING THE GLANS, OR STRANGLING IT BY RETRACTION.

IF, at the attack of inflammation, the prepuce be in its natural state and cover the glans, it cannot be drawn back, and the glans is imprisoned. If it should accidentally have been retracted, or be naturally short and truncated, it cannot, after the inflammation has firmly fixed itself, be drawn forwards, and the glans is strangled. And hence the species offers us two varieties:—

- α Incarcerans.  
Incarcerating phimosis.  
β Strangulans.  
Strangulating phimosis.

The prepuce protracted and imprisoning the glans.  
The prepuce retracted and strangling the glans.

The FIRST VARIETY alone is denominated *phimosis* by some writers, the SECOND being distinguished by the term *paraphimosis*, or *circumligatura*. But the inflammation is one and the same, and the same specific name should express it; for the difference is a mere accident.

This inflammation, like the last, though often produced by common causes, and hence perfectly simple, is often, also, the result of a specific virus, as in lues and blenorrhœa. It arises frequently with great rapidity; the prepuce is prodigiously distended with effused serum, and the mucous glands of the internal surface secrete an enormous quantity of pus before there is any ulceration or breach of surface. If the prepuce be retracted violently, and the glans strangulated, and cold applications and topical bleedings prove ineffectual, it is often necessary to divide the prepuce to set the glans at liberty. And occasionally it is also necessary to perform the same operation when the glans is imprisoned by a protraction of the prepuce: for ulceration is apt to take place under these circumstances in either case, and the matter soon becomes erosive: as much of it as possible, however, should be washed out with a syringe several times a day, and an astringent solution be afterwards injected, consisting of alum dissolved in water in the proportion of about a scruple to a quarter of a pint.

The imprisoning phimosis is said to occur not unfrequently from laborious exertion in a very narrow vagina.\* I have not met with this result, but often with a lacerated prepuce. In many instances of both kinds, relief has been easily obtained by grasping the penis with a very cold hand, and dexterously urging the prepuce for-

GEN. II.

SPEC. VI.

Produced  
under two  
states of the  
glans.

Paraphimosis,  
what.

Causes.

Often advances  
rapidly.

Treatment.

\* Essich, in Ziegenhagen Anweisung alle venerische Krankheiten — zu behandeln. A. D. B. xcv. 421.

GEN. II.  
SPEC. VI.  
Phlegmone  
phimotica.

Treatment.  
Sometimes  
followed by  
gangrene.

Mortified glans  
has regermin-  
ated.

ward or drawing it backward according to the nature of the case.\*

When the inflammation is very violent, whether in the strangulated or retracted variety, and surgical attention has been neglected, gangrene will readily ensue, and an amputation of a smaller or larger portion of the penis may be absolutely necessary. In an instance of an amputation of this kind, recorded by Mr. Jamieson of Kelso, in the Edinburgh Medical Essays, the whole of the glans penis was restored by a process of pullulation: the new shoots having at first been mistaken for fungus, and attempted to be destroyed by escharotics. The fresh glans was well shaped and proportioned.† [The editor scarcely need observe, that the practice of amputating the penis on account of the risk of mortification from paraphimosis, is entirely relinquished by all the best modern surgeons; and that even the removal of a portion of the prepuce for the relief of phimosis, is much less frequently practised than it used to be. Both cases, when dependent on inflammation, generally yield to milder treatment. In paraphimosis, that resists common means, an incision through the constriction will often prevent gangrene; and it is only under very particular circumstances requiring the glans to be immediately exposed, or where the phimosis depends upon a naturally long constricted foreskin, or one permanently thickened and lengthened by disease, that the removal of any portion of the prepuce is necessary.]

## GENUS III.

### PHYMA.

#### TUBER.

IMPERFECTLY SUPPURATIVE, CUTANEOUS, OR SUBCUTANEOUS TUMOUR; THE ABSCESS THICKENED, AND INDURATED AT THE EDGE; OFTEN WITH A CORE IN THE MIDDLE.

GEN. III.  
Import of the  
term:

formerly very  
loose and  
confused.

PHYMA, a Greek term importing a tuber. tubercle or small swelling, from *φύω*, "produco, erumpo," was used among the Greek and Roman physicians with great latitude and no small want of precision: sometimes, as by Hippocrates and Paulus of Ægina, being applied to scrofulous and other imperfectly suppurative tumours; sometimes, as by Celsus and Galen, to tumours perfectly and rapidly suppurative, larger than a boil, but less painful and inflammatory, and without a core or ventricle: and sometimes by other writers, as Celsus also informs us, to fleshy excrescences or warts on the glans penis, which it was then the custom to destroy by caustics. And in consequence of this vague sense of the term, and the lati-

\* Andree, on the Gonorrhœa — Hecker, Von Venerischen Krankheiten, &c.

† Vol. v. art. xxxvi.



ade of its original meaning, the great body of the Galenists, as Sauvages observes, applied it to protuberances of every kind.

Modern writers have been at a loss in what exact signification *phyma* should be employed. Linnæus and Cullen have rejected it. Sauvages and Sagar have used it as the name of a distinct and separate order. Vogel, following the example of Hippocrates and Paulus, has reduced it to a genus of imperfectly suppurative and glandular tumours; and, as a genus, it thus occurs in Dr. Willan's table of arrangement, including boils, carbuncles, and similar inflammations as its species. This seems to be the most accurate sense; and as such it is adopted in the present system, and made to include sty, boil, sycosis, and carbuncle; in all which we find some degree of imperfection in the suppurative or the ulcerative process of these small abscesses, or in both conjointly; and hence the pus is foul and sanious, or the walls or edges of the abscess are thick and indurated, or the dead matter is not completely carried off, and remains behind in the shape of a core or a fungus, sometimes black and spongy, and sometimes excrecent and granulating.

The following, therefore, are the species included under it:

1. PHYMA HORDEOLUM.	STY.
2. ——— FURUNCULUS.	BOIL.
3. ——— SYCOSIS.	FICOUS PHYMA.
4. ——— ANTHRAX.	CARBUNCLE.

GEN. III.  
*Phyma*.  
Its exact  
meaning has  
hence excited  
discussion.

Most accurate  
import.  
Common  
character.

## SPECIES I.

### PHYMA HORDEOLUM.

#### STY.

TUMOUR SEATED ON THE VERGE OF THE EYE-LID; GRANULAR;  
HARD; REDDISH; SORE TO THE TOUCH; SUPPURATION CON-  
FINED TO THE POINT.

The vernacular term *sty*, or, as it is sometimes written, *stian*, is to be met with in the earlier writers, who obtained it from the Saxon, in which *stihan* (stȋtan) signifies "a rising, springing up, or ascent;" and hence in Bede's Bible, Mar. iv. 7. stȋtan ða þornas (*stihan tha thornas*), "up spring the thorns." Wickliffe spells the old English derivation *stigh*, but Spenser, who uses the word frequently, drops both the last letters of Wickliffe, as in the following couplet:—

To climb aloft and others to excel,  
That was ambition, and desire to sty.

From the hardness of the margin of the tumour, and the imperfection of the suppurative process, Sauvages compares it to a small boil; and asserts that it is often the result of a morbid state of the stomach; adding, that he knew a man who uniformly had a sty after drinking ardent spirits. The inflammation, though often very troublesome while it lasts, for the most part readily subsides upon the breaking of the minute abscess, or puncturing it at its apex when mature.

GEN. III.  
SPEC. I.  
Origin of the  
vernacular  
name.

Sometimes  
produced by  
hard drinking

## SPECIES II.

## PHYMA FURUNCULUS.

## BOIL.

TUMOUR COMMON TO THE SURFACE; DEEP-RED; HARD; CIRCUMSCRIBED; ACUTELY TENDER TO THE TOUCH; SUPPURATING WITH A CENTRAL CORE.

GEN. III.  
SPEC. II.  
Character.

THE boil is a push with a central core; and like the push is found in persons of an antonic or phlogotic habit, with a peculiar susceptibility of irritation: on which account it often makes its appearance successively in different parts of the body, and sometimes synchronously, so that we meet with a crop at a time. This tumour is therefore chiefly found in persons of high health and in the vigour of youth.

[It is a hard, painful, and highly-inflamed tumour, of a conical shape, the base of which is below, and the apex slightly elevated above the level of the skin. The colour of the tumour is of a dusky red inclining to purple, and its summit is tipped by a whitish pustule or eschar, beneath which is lodged a mass of disorganised cellular membrane, commonly called the *core*. Although the tumour always suppurates, its progress is slow, and the matter is sanious and ill-conditioned.] \*

Core.

How accounted  
for on Hunter's  
hypothesis.  
Pus probably  
less solvent  
than ordinarily.

The existence of a core offers a singularity in this affection that is well worth attending to, and shows that, from some cause or other, the ulcerative part of the process is imperfect. Upon Mr. Hunter's hypothesis, this must depend upon a weak action of the absorbents; but as we have already endeavoured to show, that the material to be removed must be prepared for absorption, and conveyed to the mouths of the absorbent vessels before absorption can take place, and have suggested, that it seems to be the office of the secreted pus to accomplish this purpose, it is probable that, in the furunculus, the pus, from some cause or other, is not quite genuine, and is possessed of a less solvent power than in common abscesses: whence a part of the dead matter remains attached to the living after the hollow has burst, and is thrown off from the base by sloughing. [In estimating the value of this theory, one fact should be taken into the account, namely, that it is the nature of a boil to produce a central core or small slough of the cellular membrane; whereas many common abscesses occasion no sloughs whatever, so that the solvent power of their matter on such productions is not in reality tried. The idea that the solids are melted down, as it were, into pus, is now completely exploded.]

The mode of treatment is simple. The diathesis should be lowered by purging, and, if necessary, by bleeding. [The best local applications are poultices and fomentations; and, when the apex of the swelling becomes soft, it may be opened, then poulticed until the core is discharged, and afterwards dressed with a solution of lunar caustic or a stimulating ointment.]

\* See Cooper's First Lines of the Practice of Surgery, and Gibson's Institutes of Surgery, vol. i. p. 48.

### SPECIES III.

## PHYMA SYCOSIS.

### *FICOUS TUBER.*

TUMOUR EXCRESCENT, FLESHY; FIG-SHAPED; SPROUTING FROM THE HAIRY PARTS OF THE HEAD OR FACE; GREGARIOUS; OFTEN COALESCING; DISCHARGE PARTIAL AND SANIOUS.

THE Greeks gave the name of sycosis from σῖκος, "a fig," to various tubers and excrescences, the shape of which was conceived to resemble that of a fig. By Celsus, however, it is limited to a particular kind of inflammatory and imperfectly suppurative tuber of the head and face. Vogel has understood the term nearly in the same sense; and Dr. Bateman has, hence, correctly described it as such in his list of cutaneous diseases.

It is seated sometimes on the beard, and sometimes in the hair of the head. In the former case it consists of small tumours, hard, roundish, pea-sized; commonly in clusters; occasionally confluent, or running into one another; and spreading from ear to ear: the discharge is small in quantity, and of a glutinous texture, whence the beard becomes filthily matted.

The variety that appears on the head consists of softer tumours, of different sizes, and in clusters; they are seated among the hair, and throw forth from a fungous surface an ichorous, copious, andetid discharge. It is not often that this complaint is connected with any constitutional affection: and, offensive as it is, it will generally be found to yield to cleanliness and mild astringents; of which one of the best is starch powder alone, or combined with an equal proportion of calamine. It makes an approach to one or two of the species of parrigo, but has characters sufficiently marked to keep it distinct, and to determine the present to be its proper action.

GEN. III.

SPEC. III.

Specific name, whence derived.

How used

by Celsus:

by Vogel:

by Bateman.

Where seated.

General character when on the beard.

General

character when on the head.

Resembles porrigo.

### SPECIES IV.

## PHYMA ANTHRAX.

### *CARBUNCLE.*

TUMOUR COMMON TO THE SURFACE; FLAT; FIRM; BURNING; PENETRANT; LIVID AND VESICULAR; OR CRUSTY, ABOVE, WITH A SORDID GANGRENOUS CORE BELOW; IMPERFECTLY SUPPURATIVE.

ANTHRAX is a Greek term correspondent to the Latin carbunculus or carbuncle; literally a small live-coal, so denominated from the redness and fiery heat of the inflammation.

GEN. III.

SPEC. IV.



GEN. III.

SPEC. IV.

Phyma  
anthrax.

Specific term,  
whence  
derived.

Relation to the  
furuncle.

In what it  
differs.

General  
character.

The specific definition sufficiently points out its relation to the furuncle or boil, especially when the latter assumes an unkindly or malignant character from something peculiar in the part or in the constitution. "The inflammation that produces the carbuncle is, however, of a different nature from any of the former: it is stationary," observes Mr. Hunter, "with respect to place, and is pretty much circumscribed, forming a broad, flat, firm tumour. It begins in the skin, almost like a pimple, and goes deeper and deeper, spreading with a broad base under the skin in the cellular membrane. It produces a suppuration, but not an abscess; somewhat similar to the erysipelatous, when the inflammation passes into the cellular membrane: for, as there are no adhesions, the matter lies in the cells where it was formed, almost like water in an anasarca. This inflammation attacks more beyond the middle age than in it, and very few under it. It is most common in those that have lived well. I never saw but one patient of this kind in a hospital. It appears to have some affinity to the boil; but the boil differs in this respect, that it has more of the true inflammation, therefore spreads less, and is more peculiar to the young than the old, which may be the reason why it partakes more of the true inflammation."\*

Occurs chiefly  
in weakly  
habits of a  
peculiar kind.

The carbuncle occurs chiefly, perhaps uniformly, in weakly habits, and hence often in advanced life. But it is not all debilitated persons who have inflammations that exhibit this disease: and we have here, therefore, another striking proof of the influence of idiosyncrasy, or a peculiarity of constitution, upon the general laws and progress of inflammation; or of a peculiarity of that part of the constitution in which the inflammation shows itself, and, but for which, the inflammatory stages of the present disease would in all probability succeed each other in regular order, and the anthrax be reduced to the character of a common and benign abscess. Of the nature of this peculiarity we are too often able to trace out little or nothing; but, so long as it continues, we have only a small chance of bringing the inflammation to a successful issue.

The peculiarity  
unknown.

The carbuncle shows itself under the two following varieties:—

α Pruna.

Escar-carbuncle.

β Terminthus.

Berry-carbuncle.

With a black crust: and oozing an erosive ichor, or sanies.

Core or fungus spreading in the shape and colour of the pine-tree berry.

α P. anthrax  
pruna.

β P. anthrax  
terminthus.

The FIRST of these varieties was called pruna by Avicenna, from its assuming the colour, and often the oval figure, of the sloe, or fruit of the *prunus spinosa* Linn. The SECOND derives its name from its assuming the figure and blackish-green colour of the fruit or berry of the pine-nut, or τέρμινθος of the Greeks, the *pinus Abies* Linn., named by the Latins terebinthus; whence it has been called terminthus and terebinthus indifferently.

General  
remarks.

Where chiefly  
found.

As the carbuncle is an inflammation of great weakness set down on a peculiar predisposition, it sometimes shows itself among feeble infants in warm climates. According to Tournefort, in his Travels through the Levant, it attacks them chiefly in the back part of the throat, and proves quickly fatal. He describes it as an endemic in his day, among the islands of the Archipelago.

\* On Blood, Inflammation, &c. part. ii. chap. iv.

In more advanced life, for the same general reason, we meet with it frequently in those who have debilitated their frames by an excess of good living, and are verging on the feebleness of age. We may hence also account for its appearing in an early stage of the plague, the most debilitating disease in the whole catalogue.\* It sometimes shows itself in great numbers almost on its onset, or *m'drop* as the Arabians call it, who distinguish carbuncles by the name of *jimmerat*.

When unconnected with any other disease, a cure has been attempted by local stimulants, as cataplasms of tobacco and muriate of ammonia, which has been a common practice in Russia; or of horse-radish†, or stone-crop (*sedum acre*).‡ Cantharides§, camphor ointments, and lotions of zinc or mercury have also been tried. More generally, however, it has been attempted to be destroyed or extirpated. Arsenic was recommended for this purpose as early as the age of Agricola, and has been employed in various forms, from that of orpiment to that of Plunket's caustic; above all which, however, Le Dran preferred corrosive sublimate. Riverius used other caustics, and Pouteau the actual cautery, which has, indeed, been very successfully and skilfully adopted of late in a variety of similar affections by M. Maunoir. But radical success must, after all, entirely depend upon supporting and giving strength to the system by cordials and tonics; for, if this cannot be accomplished, it is perfectly clear that the predisposition will be neither subdued nor subside spontaneously: that the ulcerations will not heal, and the system must gradually sink under their constant discharge and irritation.

[The practice most approved in modern times is to apply in the incipient stage fomentations and emollient poultices to the part, and to have recourse, at the same time, to antiphlogistic treatment in moderation. For the relief of the pain, opium is freely prescribed. After a short time, the antiphlogistic is exchanged for the tonic treatment, with bark, cordials, wine, and a nutritious diet. An early, free, and deep crucial incision should be made in the swelling—a method that is to be preferred to the application of caustic to the skin, on account of the latter not procuring an outlet for the matter and disorganised cellular membrane with sufficient promptitude.]

The carbuncle of cattle is frequently owing to the poisonous sting of various insects; and hence a similar cause has, by some practitioners, been supposed to exist in mankind. Pallas suspects the *furia infernalis*; while others have mentioned the *sirex gigas*, or large-tailed wasp. It is probable that these may have been occasional causes, where there has been a predisposition to the disease in the constitution.

\* The carbuncle of plague differs from what is met with in this country, by being contagious, attacking promiscuously any part of the surface of the body, and the young as well as other persons past the middle period of life. The common carbuncle, as is well known, has a preference to the posterior parts of the trunk, the nape of the neck, and especially a situation between or over the scapulae. — Eo.

† Paré, lib. xvi. cap. 32.

‡ Bucholz und Mirquet neueste Heilkunde, Nürnberg. 1777.

§ Riverius, Observ. Med., lcnt. iv.

The carbuncle of cattle, or the *malignant pustule*, as it is named by foreign writers, is not now believed by them to be occasioned in the manner specified in

GEN. III.  
SPEC. IV.  
B P. anthrax  
terminatus.

Treatment.

Arsenic.  
Caustics.

Cordials and  
tonics.

Carbuncle of  
cattle.

How far con-  
nected with the  
human, in  
origin.

## GENUS IV.

## IONTHUS.

## WHEELK.

UNSUPPURATIVE, TUBERCULAR TUMOUR; STATIONARY; CHIEFLY  
COMMON TO THE FACE.

GEN. IV.  
Generic term,  
import of.

IONTHUS (ἰονθος) is, literally, a "violet or purple eruption, or efflorescence," from ἰον, viola; whose colour is frequently that of a welky or bubukled face. It includes all those firm and indurated pimples, of whatever description, unconnected with fever, and having a subcutaneous base, with which the face is often disfigured, whether solitary, gregarious, or confluent. These may be comprehended under the two following species:—

1. IONTHUS VARUS.                      STONE-POCK.
2. ————— CORYMBIFER.      CARBUNCLED FACE.      ROSY-DROP.

## SPECIES I.

## IONTHUS VARUS.

## STONE-POCK.

TUMOUR RED; HARD; PIMPLY; DISTINCT; GREGARIOUS; SORE  
TO THE TOUCH; SOMETIMES OOZING A LITTLE FLUID AT  
THE TIP.

GEN. IV.  
SPEC. I.

THIS sort of pimple eruption is so common, that there is no one but has seen examples of it; and few who have not at times given examples of it in their own persons. It exhibits two varieties:—

- |   |   |
|---|---|
| <p>α Simplex.<br/>Simple Varus.<br/>β Punctatus.<br/>Maggot-pimple.</p> | <p>Broad-based, bright red, solid.<br/><br/>Tipped with a black dot, and<br/>discharging, on pressure, a<br/>grub-like concretion of mu-<br/>cus.</p> |
|---|---|

General  
character.

The first, on being firmly pressed with the finger, oozes, at times, a little limpid serum, but no concrete mucus; and even for this it

the text, but is propagated on the principle both of an epidemic, and a contagious disease. It is one of the few disorders which can be extended from the brute creation to man — the malignant pustule, cow-pox, hydrophobia, and the glanders (as clearly proved by the researches of Dr. Elliotson; see Med. Chir. Trans., vols. xvi. xviii.), being perhaps the only four cases which are of this nature. The itch has sometimes been also specified as capable of affecting both man and animals. — ED.



is necessary to make the pressure harder than for the discharge of the mucus in the maggot-pimple. The mucus concretes in a follicle, or natural passage, and hence there is less inflammation and soreness than in the simple varus: yet the sides and root of the follicle are thickened and indurated: and hence the papulous elevation. Goulard's lotion, and a few other empirical cosmetics, as white paint of bismuth or cerusse, alike deleterious in their effects, and apt to produce palsy, are a common resource among the multitude for both these varieties. They have sometimes succeeded, with little other sacrifice than the exorbitant price which the purchaser has had to pay for them; but the cure has far more frequently been bought (if there have been a cure at all) at the expense of a ruined constitution, and at the exchange of a temporary local disfigurement for a life of general ill health.

Both varieties are occasionally produced by some internal affection, chiefly of the stomach; as a sudden chill from taking a draught of cold water or cold milk; or eating cold vegetables, as turnips, cucumbers, and melons, when in a state of great heat and perspiration. Catching cold in the feet has sometimes produced the same effect. These are cases of direct sympathy; the torpitude of one organ being communicated to another, which is predisposed to associate in its action.

They have occasionally yielded to powerful sudorifics, and especially when combined with narcotics, as the compound powder of ipecacuanha, in strong doses, taken for several nights in succession, the part affected being at the same time wrapped in flannel. They have also yielded to metallic and terebinthinate stimulants; as eight grains of the compound calomel pill, and a scruple of camphor, made into six or eight pills, and taken daily for ten days or a fortnight. But they generally require some local irritant at the same time; as savine cerate, the camphor or mercurial liniment, or the stronger liniment of ammonia, used so as to excite blistering. Yet, after they have resisted these and other preparations, with great obstinacy, for years, they have at length vanished beneath a severe attack of fever, or have disappeared spontaneously. The complaint, however, is occasionally hereditary, and bids equal defiance to time, to fevers, and to medicines. Dr. Darwin, under the name of gutta rosea, has a copious collection of cases in point; some of them drawn from old maids, and others from elegant young ladies, and each duly authenticated with initials, to which the reader may turn at his leisure. Among the rest is that of "Miss L., a young lady about eighteen, who had tried variety of advice for pimples over the greatest part of her face, in vain. She took rhubarb five grains, and emetic tartar, a quarter of a grain, every night for many weeks, and blistered her face by degrees all over, and became quite beautiful." \*

GEN. IV.

SPEC. I.

Ionthus varus.

Cosmetics.

Causes.

Treatment,  
general.

Local.

Illustrated.

\* Zoonom., cl. ii. i. iv. 6.

## SPECIES II.

## IONTHUS CORYMBIFER.

*CARBUNCLED FACE. ROSY DROP.*

TUMOURS CONFLUENT; CORYMBOSE; MOTTLED WITH PURPLE:  
OFTEN DISFIGURING THE NOSTRILS WITH PENDULOUS LOBES.

GEN. IV.  
SPEC. II.  
Causes.

As the preceding species is produced by a sympathy of the excrements of the skin with a torpid state of the stomach, the present is produced by a like sympathy with the liver; and hence it is proverbially regarded as a proof that those who are thus disfigured, have indulged too largely in wine and other spirituous potations. So Shakspeare, in describing the physiognomy of a hard drinker, tells us, that "his face is all bubukles, and whelks, and knobs, and flames of fire!!" And, in like manner, as I learn from Dr. Percival, the common name for these protuberances in Ireland is Grog-blossoms.

Tumours  
usually very  
irritable.

The tumours in this species are usually more susceptible of irritation than in the preceding; or, in other words, the cutaneous vessels are in a state of increased debility; and hence they are exacerbated by cordials or exposure to heat.

Treatment.  
Gradual change  
of diet.

As this is, in most cases, an habitual affection, or one of long standing, no change of diet, however desirable, should be made suddenly; for this would run a risk of producing dropsy, and, perhaps, paroxysms of atonic gout: but a gradual change to a more sober and temperate regimen is highly to be recommended; and, in the mean time, the patient should have his bowels kept regularly open with warm eccoprotics; as the extract of colocynth and myrrh pill; and be put upon a course of equitation, or such other exercises as may recruit the spirits and invigorate the system generally, in which benefit the liver will become a chief participant. The tumours may not, perhaps, totally disappear, but they will often diminish in magnitude, and assume a healthier hue, or, at least, we shall hereby prevent them from any farther enlargement, and especially from passing into that carbuncular ulceration we have just noticed.

Aperients.

## GENUS V.

## PHLYSIS.

## PHLYSIS.

ULCERATIVE, SUBCUTANEOUS TUMOUR; FLAT; TENSIVE; GLABROUS; DIFFUSED; HOT; THROBBING; AT LENGTH FLUCTUATING WITH AN ICHOROUS MATTER.

PHLYSIS, from the Greek *φλυζω*, “ferveo,” was formerly employed in a very indeterminate meaning, to express cutaneous eruptions filled with any kind of fluid, whether purulent or ichorous: more generally, however, it had a bearing towards the sense of ichorous or vesicular pimples. Dr. Willan has, on this account, correctly limited phlyctænæ, derived from the same root, to this import, in his Table of Definitions; and such is the restriction of phlysis, and all its compounds, in the present system.

Of the genus now offered, there is but one well-ascertained species; the paronychia, or whitlow.

GEN. V  
Origin of  
generic name.

## SPECIES I.

## PHLYSIS PARONYCHIA.

## WHITLOW.

INFLAMMATION SEATED ABOUT THE NAILS AND ENDS OF THE FINGERS; PAIN ACUTE AND PRICKING, SHOOTING UP THE HAND.

UNDER this species are included the following varieties:—

- |                    |                                      |
|--------------------|--------------------------------------|
| α Cutanea.         | Effusion immediately under the skin. |
| Cutaneous whitlow. |                                      |
| β Tendinis.        | Effusion among the tendons.          |
| Tendinous whitlow. |                                      |
| γ Periostei.       | Effusion pressing on the periosteum. |
| Malignant whitlow. |                                      |

GEN. V.  
SPEC. I.

In the FIRST VARIETY, the ichor, or pus, is poured forth between the skin and the subjacent tendons, to which, however, it is limited.

In the SECOND, it insinuates itself between the tendons and the periosteum; and in the THIRD, between the periosteum and the bone, which is often in the state of necrosis. It is to this last, or malignant whitlow, that the term *felon* is most correctly applied.

Similar inflammations are occasionally to be found in the soles of the feet and palms of the hands. They break through the skin or

Felon, what.  
Found occasionally in other parts.



GEN. V.

SPEC. I.

Phlysis  
paronychia.Acute pain,  
how produced.Cataplasms  
peculiarly  
useful.Soft parts  
below, why  
pushing  
through the  
opening.Protruded  
part not to be  
removed by  
escharotics.

Treatment.

Produced by  
most causes of  
inflammation.By peculiar  
causes.

cuticle with difficulty, from their thickness, and hence become diffused, and, in the latter case, separate the cuticle from the skin beneath.

In the whitlow, the acute and lancinating pain complained of, arises partly from the thickness and inelasticity of the skin about the finger-nail, but more from the hardness of the finger-nail itself; both which act like a tight bandage upon the inflamed part, and do not allow it to swell, or give way to the extravasation. In these cases, therefore, we can easily see why the application of poultices should be of more service than in any other; for they can here act mechanically, or, in other words, their moisture becomes imbibed by the cuticle, as by a sponge, so that it softens, grows larger in its dimensions, and less rigid in its texture; while the nail itself loses a part of its hardness, and becomes suppler. It is in consequence of the peculiar firmness of the skin around the nail, that the soft parts below are so often seen pushing out through a very small opening in the skin as soon as this has been effected, and appearing like a fungus, but so exquisitely irritable as to give a more impressive idea of soreness than, perhaps, any other kind of ulceration whatever. All this proceeds from the surrounding belts of the cuticle not giving way to the increase of the parts underneath; whence they are squeezed out of this small opening like paint out of a bladder. It is a common practice to eat away this protruded part by escharotics, as if it were a diseased fungus; but this is to give additional pain without any benefit; for the pressure from below will not be hereby diminished. By continuing the poultice, the tumefaction will subside, and consequently the pressure cease.

In the first stage of the complaint, leeches should be applied, and if the inflammation be hereby diminished, it may sometimes be carried off by astringent lotions, or ardent spirits, which excite the surrounding absorbents to additional action.\* Most of the causes of inflammation operate in the production of this peculiar affection. It is also occasioned by an incurvation of the nail †; possibly sometimes by a caries or morbid state of the subjacent bone, in the tendinous and periosteous variety, as asserted by Siebold ‡; and Mr. John Pearson has shown, that it may occasionally result from a syphilitic diathesis, or any other depraved habit.§ It seems, moreover, in some cases, to be produced by the bite or burrowing of the larvæ of one or more minute, and, to the naked eye, invisible insects, hatched on the leaves of various field plants, and especially fescue-grass: and is said to be also occasioned by the bite of the *gordius aquaticus*, or hair-worm.

\* Whitlows, not far advanced, sometimes admit of being resolved by the external use of the nitrate of silver, with which the skin is to be stained, in the manner advised by Mr. Higginbottom, of Northampton. The editor had rarely seen a whitlow brought to resolution, before this practice had been suggested. (See John Higginbottom on the Application of Lunar Caustic to Wounds and Ulcers. 8vo. 1826.) When the disease is not immediately relieved by this plan, or other means tried to disperse the abscess, an early opening should be made for the discharge of the matter. — Ed.

† Vicat. Delect. Observ. Pract.

‡ Chirurgisches. Taschenbuch. xi.

§ Principles of Surgery, p. i.

## GENUS VI.

## ERYTHEMA.

## INFLAMMATORY BLUSH.

RED, GLABROUS, TUMID FULNESS OF THE INTEGUMENTS; DIS-  
APPEARING ON PRESSURE; PAIN BURNING; INFLAMMATION  
ULCERATIVE; TERMINATING IN CUTICULAR SCALES, OR VE-  
SICLES; OCCASIONALLY IN GANGRENE.

THIS genus of inflammation is entitled to a minute and discrimi-  
native attention, not only on account of its violence and tendency to  
an almost unlimited spread, but from its having been very generally  
confounded with an exanthem\* or eruptive fever which, in one or  
two of its species, it frequently accompanies, but of which it is  
then a mere symptom.

[One of the latest writers on erysipelas (or the erythema of the  
present author) considers it as merely a particular modification of  
cutaneous, or cutaneous and cellular inflammation. If (says he)  
we were to class these according to their natural affinities, we should  
place erysipelas between the exanthemata and phlegmon. It is  
less diffused than the former; not so circumscribed as the latter.  
The exanthemata are confined to the skin; erysipelas affects both  
skin and cellular structure; while phlegmon has its original seat in  
the latter; the skin being secondarily involved. Phlegmon is a  
more violent inflammation than erysipelas; but sloughing of the  
cellular membrane is more frequent in the latter than the former.]

Erythema, from *ἐρυθρὰ*, "ruber," is a term of Hippocrates, who  
uses it as nearly as may be in the sense now offered; and for which  
many modern writers of our own country have not unaptly em-  
ployed the vernacular term INFLAMMATORY BLUSH; since the  
redness has often very much the appearance of a blush, or glowing  
suffusion of the cutaneous capillaries. For ERYTHEMA, Celsus and  
Galen have unfortunately adopted the term *erysipelas*, whence  
Duretus, in his Latin version of Hippocrates, has used *suffusio*  
*erysipelatosa*. And hence erysipelas has been made a very com-  
mon synonym of erythema by general writers, while the nosolo-  
gists, with a few exceptions, have limited erysipelas to that spe-  
cies of exanthem or eruptive fever which is vernacularly known  
by the name of St. Anthony's Fire; and have revived erythema

GEN. VI.

Why deserving  
of close atten-  
tion.

Generic term  
employed by  
Hippocrates;  
for which  
erysipelas has  
been used by  
Celsus and  
Galen; though  
since applied to  
an eruptive  
fever by many  
nosologists:  
who have  
restored ery-  
thema to its  
original im-  
port; whence

\* The doctrine of erysipelas being an exanthem, according to Dr. Cullen's  
definition of the last term, is rather inconsistent. It is correctly observed by Mr.  
Lawrence, that, although the leading characters of the exanthemata are thus ex-  
pressed "morbi contagiosi, semel tantum in decursu vite aliquem afficientes,"  
Cullen has arranged under this order erysipelas, which attacks the same individual  
repeatedly, and the contagious nature of which is, to say the least, very doubtful.  
(See Med. Chir. Trans., vol. xiv. p. 31.) As, however, Dr. Good's definition of  
exanthemata is "cutaneous eruptions essentially accompanied with fever," he  
does not fall into the same kind of contradiction as Cullen did.

† See Lawrence on Erysipelas in Med. Chir. Trans., vol. xiv. p. 18.

GEN. VI.  
Erythema.

the two disorders have been confounded.

Distinctive characters.

Erythema sometimes used in a second sense, equally loose and indeterminate.

Proximate cause mostly a peculiar irritability general or local.

Distinctions of Galen.

How far applicable to the present genus.

to express the local affection, or peculiar inflammation before us, in which the pyrexia is mostly symptomatic.

Frequently, however, as these two disorders have been confounded, from an indiscriminate application of the same name to both, it will not be difficult to draw a distinctive line between them. Erythema bears the same analogy to phlegmon, as erysipelas does to small-pox. Phlegmon is local inflammation tending to suppuration; erythema, local inflammation tending to vesication: small-pox is an idiopathic fever producing a phlegmonous efflorescence. Small-pox is always contagious; erysipelas occasionally so; phlegmon and erythema have no such tendency.

The distinction then between erysipelas and erythema is clear; yet the confusion, just noticed, has been increased by some writers who have not only used erysipelas in its popular, yet erroneous, signification of erythema, but have also employed erythema in a new and unjustifiable sense; as occurs particularly in Dr. Willan's classification of Cutaneous Diseases; where, while erysipelas is made to embrace both erysipelas and erythema, as these terms have hitherto been commonly used, erythema is arbitrarily appropriated as the name of another collection of cutaneous erubescences of very different characters, and produced by very different causes; some of them primary, others symptomatic affections; some constitutional, and others local; occasionally smooth, papulous, tubercular, or nodose; most of which should be distributed under different divisions.

Thus introduced and explained, erythema, as a genus, will be found to comprise the seven following species, the first three of which are taken with little alteration from Mr. Hunter: —

- |    |          |                  |                           |
|----|----------|------------------|---------------------------|
| 1. | ERYTHEMA | ŒDEMATOSUM.      | ŒDEMATOUS ERYTHEMA.       |
| 2. | ————     | ERYSIPELATO-SUM. | ERYSIPELATOUS ERYTHEMA.   |
| 3. | ————     | GANGRENO-SUM.    | GANGRENOUS ERYTHEMA.      |
| 4. | ————     | VESICULARUM.     | VESICULAR ERYTHEMA.       |
| 5. | ————     | ANATOMICUM.      | ERYTHEMA FROM DISSECTION. |
| 6. | ————     | PERNIO.          | CHILBLAIN.                |
| 7. | ————     | INTERTRIGO.      | FRET.                     |

Most of these depend upon a peculiar irritability of the constitution, or of the part in which the inflammation or erythema appears; and the common, though perhaps, not the sole cause of such irritability is debility or relaxation.

Galen, who justly distinguishes between suppurative, or, as he calls it, phlegmonous inflammation, erythematic (with him erysipelalous), and œdematous, ascribes the first, according to the old doctrine of temperaments, to a prevalence of the sanguineous diathesis; the second to that of the bilious; and the third to that of the phlegmatic or pituitous.\* That there is generally a peculiar habit in the last two, and often, as we have already observed, in the first, is so clear as to be indisputable; but it is by no means equally clear, that such peculiarity of habit is dependent upon the immedi-

\* De Tumoribus, Præternat., tom. iii. xx.



ate cause Galen has adverted to. The temperaments of the Greek physicians, excepting when in excess, are not inconsistent with the condition of health; and hence, therefore, in connexion with the temperament, there is usually, in the last two inflammations, a habit of debility or relaxation. And where this exists, the very same stimulus that, in a perfectly healthy frame, would produce a common adhesive or suppurative inflammation, under this state of the system changes the character of the inflammatory action, and urges on the ulcerative process from the first. It usually commences with great violence, and is peculiarly apt to spread; the surrounding parts being easily excited to act or sympathise in an action to which they are prone. Hence, continued sympathy is a common, though not an universal effect; for we sometimes meet with very considerable inflammations confined to the part irritated, notwithstanding that the irritated part evinces great violence of action. Mr. Hunter has illustrated this difference of effect by referring to a piece of paper under two different states, dry and damp. In dry paper, a blot of ink applied to it will not spread, and remains confined to the point of incidence; in wet paper it spreads easily, being attracted by the surrounding moisture, to which it has an affinity.

[The distinction proposed between erythema and erysipelas is well founded; the latter term being restricted by Cullen to a fever that is followed by the peculiar inflammation of the skin, commonly termed erysipelatous. By erythema, Dr. Good signifies merely the local affection of the skin, whether the consequence of fever or not. The only objection to so true a distinction is its interference with the common meaning of the word erysipelas, now more loosely employed in every medical publication, and at every medical school. Yet, who will maintain, that a fever, leading to a peculiar inflammation of the skin, ought to be confounded with other cases, in which either no fever may precede the local affection, or a fever of a very different kind from what precedes the efflorescence of erysipelas in Dr. Good's sense of the expression? The truth of the latter part of this remark will be illustrated in the history of erythema anatomicum. Why the author, in his definition of erythema should have introduced the words "inflammation ulcerative," the editor can hardly understand; since erythema, or erysipelatous inflammation frequently terminates without any ulceration, suppuration, or even vesications. The connection, which the disorder is represented by the author to have with debility, as a cause, is another doctrine that does not meet with universal assent. The truth is, that the peculiar state of the constitution, or part, determining the kind of inflammation, is not known; but, as erythematous inflammation frequently occurs in young and robust persons, as well as the old and debilitated, nothing can be more certain, than that it is not essentially connected with weakness. Mr. Lawrence is quite at a loss to discover in this affection those marks of debility, which some have so much insisted on. Erysipelas, like any other inflammation, he observes, may occur in old and feeble persons, and the effects of the disease, when aggravated by injudicious treatment, or pretracted from any cause, will soon weaken the most robust; but, however weak the patient, the local disturbance is one of excitement; there is increased activity in the circu-

GEN. VI.  
Erythema.

Erythematous inflammation why ulcerative rather than phlegmonous.

Continued sympathy a common effect, and why.  
Illustrated.

Distinction between erythema and erysipelas well founded.

GEN. VI.  
Erythema.

lation of the part, clearly marked by all the symptoms. Indeed, speaking of the part, he is unable to recognise debility as the cause of any inflammation whatever, and, in reference to the seat of disease, he regards the expressions of passive and asthenic inflammation and venous congestion, as either unmeaning, or calculated to convey erroneous notions.\*]

## SPECIES I.

### ERYTHEMA ŒDEMATOSUM.

#### ŒDEMATOUS ERYTHEMA.

COLOUR SCARLET; SPREADING WIDELY AND DEEPLY THROUGH THE CELLULAR MEMBRANE, WHICH OFTEN IMPERFECTLY SUPPURATES, SLOUGHS, AND BECOMES GANGRENOUS.

GEN. VI.  
SPEC. I.

THIS is the "œdematous inflammation" of Mr. Hunter, who observes that, when the extravasated fluid is water, it has very much the appearance of the adhesive inflammation, and probably resembles it more nearly than any other erythema, being of a scarlet colour, but much more diffused.

General  
character.

The skin, through the whole range of the intumescence, appears glabrous, and the redness vanishes upon a pressure of the finger, but returns as soon as the pressure is removed. The extravasated fluid is principally serum, and hence the swelling spreads further than the inflammation itself. It is very painful, or, rather, very sore; but has less of the sensation of throbbing than the adhesive inflammation. It is apparently limited to the surface, yet it probably goes much deeper; for the extravasated fluid is in too large a quantity to be furnished by the cells of the cutis alone: but as the swelling and the inflammation do not here keep pace with each other, as in the adhesive description, we have not the same guide to direct our judgment. Coincidentally with the remarks already offered, Mr. Hunter observes that "the difference between this and the adhesive inflammation arises, I conceive, from the principle of inflammation acting upon a dropsical disposition, which is always attended with weakness; whereas a greater degree of strength would have produced the adhesive inflammation under the same cause or irritation. And what makes me conceive this is, that, in many cases of anasarcaous legs, we have exactly this inflammation come on from distension, which adds to the extravasation of the serum, as well as in most cases of scarifications of œdematous parts to evacuate the water. When this inflammation takes place, it is much more lasting than the adhesive; and, I believe, seldom or never produces suppuration: but if it should run into this stage, it is more general, and the whole cellular membrane in the interstices of parts is apt to mortify and slough, producing very extensive abscesses, which are not circumscribed."†

Probably goes  
deeper than the  
surface.

Habit often  
dropsical.

Inflammation  
more lasting  
than the ad-  
hesive.

Sometimes  
suppurates,  
spreads widely,  
and becomes  
gangrenous.

\* See Med. Chir. Trans., vol. xiv. p. 28.

† On Blood, part II. chap. II. sect. vii. p. 269

There is no difficulty in determining why œdematous inflammation should rarely, if ever, produce suppuration, and why it should be of longer continuance. Suppurative inflammation is, generally speaking, the process of a healthy part or habit taking place instinctively for the purpose of removing something that is dead, irritating, or otherwise mischievous, and of filling up the space hereby produced with sound living matter. In œdematous inflammation, the part or habit is unhealthy and debilitated; and hence, while there is necessarily less tendency to suppuration, there is less power of recovery.

In some instances, the disorder is migratory, of which Dr. Swediaur gives a singular case that had just occurred in his practice. The patient was a robust, sanguineous man of fifty-five years of age, who had for many years laboured under paroxysms of gout, which had returned after certain intervals, but who, at the time, had been free from attack for a longer term than usual. The œdema first suddenly showed itself in the eyelids, and disappeared on the second day, when he complained of pain and swelling in the fauces, with difficult deglutition. This was removed by astringent gargles, when the eyelids became again œdematous; then the neck, and in a few days, in succession, the fingers of the right hand; the fingers itched, became exulcerated, discharged an acrid humour, and the patient felt well. Some months afterwards the same erythema returned, travelled in the same direction, and at last fixed on the feet, which in like manner inflamed, ulcerated, and healed, with a speedy return of general salubrity.\*

The general curative intention therefore may be expressed in a few words. It should consist in whatever has a fair promise of giving local or constitutional tone, or both. Hence the benefit of astringent epithems and lotions, whether formed of earths, acids, or metallic oxides, applied to the part affected; and of stimulants where the action is peculiarly weak, as camphor-water, or a solution of the acetate of ammonia, with proof spirit proportioned to the degree of torpor. And hence, as internal medicines, bark, columbo, myrrh, iron, will often be found highly serviceable, in conjunction with a generous diet, pure air, and such exercise as may be taken without fatigue.

[When erythema œdematosum is joined with a general tendency to dropsy, the treatment should be chiefly directed against the latter disease. But, when the local affection is called œdematous merely on account of the copious effusion of serum in the part, and is not combined with a dropsical state of the constitution, some practitioners adopt antiphlogistic treatment, instead of the tonic stimulating plan. Thus, in the beginning of the case, venesection, the free use of leeches, low diet, &c. constitute the practice followed by many surgeons and physicians at Paris for the relief of œdematous erythema. †]

\* Nov. Nosol. Meth. Syst., vol. ii. p. 142.

† Roche et Sanson, Nouveaux Elém. de Pathologie, Med. Chir., tom. i. p. 351. Rayer, Traité des Maladies de la Peau, tom. ii. pp. 221. 241.; and Lawrence, in Med. Chir. Trans., vol. xiv. p. 49.

GEN. VI.

SPEC. I.

Erythema  
œdematosum.

Why œdematous inflammation rarely suppurates.

Sometimes  
migratory.

Curative  
intention.



## SPECIES II.

## ERYTHEMA ERYSIPELATOSUM.

*ERYSIPELATOUS ERYTHEMA.*

COLOUR DEEPISH-RED; SUPERFICIAL; WITH A DETERMINED EDGE IN A SERPENTINE DIRECTION; THE PART WHICH HAS PASSED THROUGH THE ACTION HEALING AS THE PART NEXT ATTACKED BECOMES AFFECTED.

GEN. VI.  
SPEC. II.

Commonly  
cutaneous.

but affects the  
cellular mem-  
brane.

Supports itself  
by continued  
sympathy, the  
parts first at-  
tacked soon  
recovering; and  
losing the mor-  
bid predisposi-  
tion by the  
action of the  
disease.

Other examples  
of the same.  
More frequent  
in summer than  
in winter:  
more common  
after wounds on  
the head than  
elsewhere:  
migrates over  
the whole body.

THIS is the "erysipelatos inflammation" of Mr. Hunter; and is evidently that which symptomatically accompanies the erysipelas as an exanthem, or eruptive fever. It is more commonly cutaneous, than situated in the deeper-seated parts; although, in some constitutions, almost every inflammation, wherever it takes place, will run deep as well as wide. The skin, however, appears to be most susceptible of its action; for it will spread over a prodigious surface of skin, while it rarely affects even the cellular membrane underneath; and in this respect, especially, it differs from the preceding species. [This opinion, that erysipelatos inflammation rarely affects the cellular membrane, or goes more deeply than the skin, is now found to be incorrect. It is only in the slightest cases that the disorder is confined to the skin, and, in all others, an effusion soon takes place in the cellular texture, causing a soft swelling; and this may be considerable, with much tension and a shining surface, when a large part of the body, or an entire limb, is involved.\*] The extravasation, however, is less, than either in the œdematous or even the adhesive inflammation. It appears to support itself by continued sympathy; for it commonly begins at a point, and spreads in a migratory direction, as the part first attacked recovers. This cannot, therefore, be merely constitutional; for, if it were, the parts already inflamed could not recover, while the morbid condition of the constitution disposes the surrounding parts to the same action; but it affords an idea that, when the parts affected have once gone through the action, they lose the morbid disposition and become healthy. This property is not peculiar to the inflammation before us; the ring-worm and many other cutaneous affections have the same tendency.

Mr. Hunter observes, that this inflammation is more common in the summer than in the winter, especially in hospitals; and believes, that it takes place more frequently after wounds on the head than any where else. "I have often," says he, "seen it begin round a wound on the scalp, and extend over the whole head and face, the eyelids being very much swelled and the ears thickened; it has then advanced to the neck, shoulders, and body, creeping along both arms, and terminating at the fingers' ends: the part which attacks the body often descends to both thighs, passes down the legs, and terminates at the ends of the toes. And while this is going on, it is as expeditiously cured behind, and the skin peels off

\* Lawrence, vol. cit. p. 3.

from the cured parts." Sometimes, however, it stops suddenly in its course, and assumes a milder character.

If it proceed deeper than the skin into the cellular membrane, it often suppurates, and at times occasions mortification in the cells by which the air is let loose; and it is this state of the disease that forms the *erysipelas phlegmonodes* of Galen \*, Van Swieten †, and many later writers, who have used *erysipelas* in the loose manner I have already pointed out, as synonymous with *erythema*. [In Mr. Lawrence's view of this subject, phlegmonous differs from simple *erysipelas* (*erythema erysipelatosum*) merely in the higher degree and deeper extent of the inflammation, which not only occupies the whole thickness of the skin and subjacent adipous and cellular tissue, but soon proceeds in the latter to suppuration and sloughing, the skin itself being often involved secondarily in the mortification.] ‡ The effect of this mixture of inflammation produces a strange feel, for it is neither that of fluctuation, nor of crepitation; and as there are no adhesions, the matter finds an easy passage into the common cellular membrane, increasing the same kind of suppuration wherever it goes; and as mortification, and consequently putrefaction, follow speedily, the discharge becomes very offensive. As the parts loaded with effusion seldom ulcerate, they should be opened early; for the fluid either gets into the cellular membrane from the want of adhesions, or separates parts that are only attached, as the periosteum from the bone, or muscles from muscles; while the true suppurative inflammation, on the contrary, ulcerates briskly, and hence should be allowed to burst, or at least should not be opened early.

At the commencement of this inflammation, there is commonly some degree of fever, accompanied with prostration of strength and dejection of spirits, and especially with loss of appetite. But the fever soon subsides, while the inflammation pursues its course; yet since one source of irritation has thus departed, it is less violent, and sometimes assumes a chronic character.

As this, like the last, is a disease of weakness, the same general tonic plan will be calculated to oppose it; and where there is a tendency in the separated skin to crack, absorbent earths or powders should be scattered freely over the ulcerative or oozing parts, to imbibe the acrid fluid as it escapes, or the ulceration will soon become extensive; and the feeble and inflamed subjacent skin, hereby exposed to the stimulus of external agency, will grow gangrenous with great speed. Finely pounded starch is a useful powder for this purpose; as it combines a tonic and an astringent with an absorbent power; so, likewise, is a mixture of equal parts of starch and finely levigated calamine or rhubarb. The last I have sometimes thought peculiarly effectual in checking the irritation; as the second appears to be in preventing the further spread of the inflamed outline that surrounds the separated cuticle.

This species of inflammation sometimes attacks infants from a very early period after birth; and, what is more singular, they have

GEN. VI.  
SPEC. II.

Erythema  
erysipelatosum.

Sometimes  
stops abruptly.

If it reach the  
cellular mem-  
brane, it sup-  
purates; forming the  
*erysipelas*  
*phlegmonodes*  
of Galen.

Gives a peculiar  
sensation to  
the touch.

Effusion should  
be soon eva-  
cuated.

Some degree of  
fever at first;  
which soon  
subsides, while  
the inflamma-  
tion continues.

Treatment.

Tonics.

Absorbent  
earths applied  
locally.

Starch.

Calamine.  
Rhubarb.

Sometimes  
attacks infants;

\* *Med. Lib.* xiv. cap. ii.

† *Comment.* tom. ii. § 723.

‡ *Med. Chir. Trans.*, vol. xiv. p. 9. The *phlegmon diffus* of Baron Dupuy-  
ten: the *diffus inflammation of the cellular membrane* of Dr. Duncan. (See  
*Edin. Med. Chir. Trans.*, vol. i.) This form of the disorder often commences  
and makes rapid advances in the subcutaneous cellular tissue. — Ed.

GEN. VI.  
SPEC. II.  
Erythema  
erysipelatosum.  
chiefly in a  
mixed form,  
proceeding with  
great rapidity,  
and spreading  
to the abdo-  
minal viscera.

Purulent secre-  
tion very  
copious.

Treatment.  
With stimu-  
lants and tonics.

State requiring  
antiphlogistic  
means.

Treatment to  
vary in different  
cases.

in a few instances been born with it. In such cases, it appears to be produced by some occasional cause, co-operating with an erythematic diathesis derived hereditarily. It generally assumes the mixed form of phlegmonous erythema, suppurates imperfectly as it takes its course through the cellular membrane, and is often succeeded by gangrene. Its progress is very rapid, from the relaxed state of the infantile fibre; and from the extrication of air, as soon as gangrene is produced, the tumefied surface has the mixed feel, already noticed, of fluctuation and crepitation. It commences usually about the genitals, works its way below towards the thighs and legs, and above towards the abdomen, and often excites on the peritonæum the same caseous or purulent secretion which is so apt to form on this membrane in puerperal fever. As there is no disposition to adhesion, the fluid spreads in every direction, wherever the ulceration makes a way for it; and hence it has often descended in great abundance into the tunica vaginalis and labia pudendi.

Stimulant epithems of ether, alcohol, and camphorated spirits, applied in the first stage of the disease to the parts affected, have been found the most beneficial practice: they act as counter-irritants, and take off the morbid excitement by the production of an artificial and more manageable inflammation. To these ought by all means to be added the use of the bark in any way in which it can be introduced, especially in that of injections, repeated several times a day.

[Mr. Lawrence rejects the notion that the cause of erysipelas is debility, and adverts to various facts to prove, that it is a complaint of an inflammatory character. Hence, the antiphlogistic treatment is what he particularly recommends. "In contending, however, for the inflammatory nature of erysipelas, and for the propriety of treating it antiphlogistically," he says, "I do not mean to recommend, that measures equally active, and, in particular, that bleeding, whether general or local, are to be employed in all cases. In young persons, in the robust, and those of full habit, in instances where the pulse is full and strong, or when there is headache and white tongue, in erysipelas of the head, attended with symptoms denoting affection of the sensorium, and more especially in the very beginning of the affection, venesection will be proper; and it may be necessary to bleed largely, to repeat the evacuation, or to follow venesection to the local abstraction of blood. Under such circumstances, the other parts of the antiphlogistic plan must also be employed; that is, the alimentary canal should be cleared by an active purgative, which may be followed by salines and antimonials, with the occasional use of milder aperients; and low diet should be enjoined. Nothing can be more different from such a case, than that of an elderly person, with a small and feeble pulse, in the advanced stage of the disease. The interval between these extremes is filled by numerous gradations, requiring corresponding modifications of treatment. The antiphlogistic plan itself embraces a wide range in point of degree; from blood-letting, local and general, with purging, vomiting, the free use of mercury and antimony, and low diet, to the exhibition of a mild aperient, with some saline medicine. The treatment of erysipelas, like that of any other inflammation, must be modified according to the age, consti-



tution, previous health, and habits of the patient, and the period of the complaint. In asserting generally, that the antiphlogistic treatment is proper, I speak of the beginning of the disease, when the original and proper character of the affection is apparent; and I am decidedly of opinion, that, in some shape or degree, such treatment will always be beneficial in that stage. In many instances, active antiphlogistic measures are of the greatest service in lessening the severity both of the local and general symptoms. In others, the administration of calomel with aperients, and of diaphoretics with low diet, will be sufficient. When the affection occurs in old and debilitated subjects, the powers of life are soon seriously impaired, and our efforts must be directed, rather towards supporting them, than combating the local affection. I have often seen such patients, labouring under erysipelas of the face in its advanced stage, with rapid and feeble pulse, dry and brown tongue, recovered, under circumstances apparently desperate, by the free use of bark and wine.\* Nothing indeed can be more absurd, than to prescribe one plan, either antiphlogistic, or stimulating and tonic, for every case, without any regard to the variation of circumstances.]

GEN. VI.  
SPEC. II.  
Erythema  
erysipelatosum.

### SPECIES III.

## ERYTHEMA GANGRÆNOSUM.

### GANGRÆNOUS ERYTHEMA.

THE COLOUR DUSKY RED; SUPERFICIAL; CUTICLE SEPARATED FROM THE CUTIS BY A BLOODY SERUM; THE CUTIS, WHEN DENUDED, EXHIBITING DARK BROWN SPOTS, DISPOSED TO BLISTER, AND SLOUGH; OCCURRING CHIEFLY IN THE EXTREMITIES.

The gangrenous erythema, like the two preceding species, is a frequent companion of debilitated or relaxed constitutions, but is mostly to be met with in advanced age, or weakly adolescence, or infancy; and particularly where, in old age, the constitution has been broken down by habits of intemperance and excess; the circulation is languid, and the blood even in the arteries assumes a venous appearance. The inflammatory stage is in these cases sometimes very slight, and the gangrene is ushered in with very little previous affection.

Either of the preceding species will pass readily into the present, in a warm, stagnant, and corrupt air; for the same reason that all hospital wounds run rapidly into the same state under the same circumstances.

Local applications are here of far less importance than an attention to the general condition of the constitution. Stimulants and perfect cleanliness are perhaps all that are demanded under the first head; while, under the second, pure air, and a steady course of tonic medicines and diet, adapted to the age and habits of the

GEN. VI.  
SPEC. III.  
Where chiefly  
to be found.

Anteceded by  
little previous  
inflammation.

A result of the  
preceding  
species in  
vitiated air.

Curative  
intention.

\* See Med. Chir. Trans., vol. xiv. p. 41.

GEN. VI.  
SPEC. III.  
Erythema  
gangrenosum.

patient, are absolutely indispensable, and can alone furnish any hope of recovery.

How far this disease appertains to the ignis sacer of the Roman writers, will be seen under the ensuing species, which forms another subdivision of the same affection.

[Gangrenous erythema, or erysipelas, seems to the editor not to merit the rank of a distinct species, because it is an effect of several forms of erythema or erysipelas when they are violent, and it is not the exclusive character of any particular example of the disorder. Bad cases of phlegmonous erysipelas present us with the most severe specimens of gangrenous mischief resulting from the disease; the hope of preventing which mischief induced Messrs. Hutchison, Lawrence, and others, to have prompt recourse to numerous or extensive incisions in the part affected.] \*

## SPECIES IV.

### ERYTHEMA VESICULARE.

#### VESICULAR ERYTHEMA.

COLOUR PALE-RED; SURFACE ROUGHISH, AND COVERED WITH CROWDING MINUTE VESICLES, FILLED WITH AN ACRID, OFTEN WITH A HEDDISH FLUID; PROGRESSIVELY TRAILING INTO THE NEIGHBOURING SOUND PARTS.

GEN. VI.  
SPEC. IV.

THIS species admits of two varieties, which have been pointed out from the age of Celsus:—

α Benignum.	Benign vesicular erythema.
β Corrosivum.	Erosive vesicular erythema.

α E. vesiculare  
benignum.

In the FIRST, the redness and vesicles advance without a breach

\* The experience which the editor has now had in the treatment of phlegmonous erysipelas, leads him to prefer numerous scarifications when the part is merely loaded with serum, and does not contain purulent matter or sloughs. He finds that from the small punctures or cuts, the quantity of fluid discharged will often be very considerable, and afford great relief. In a case which he is now attending, in Eagle Street, Red Lion Square, three pints of serous fluid flowed out of the small punctures in twenty-four hours. This practice is only necessary, however, when cold applications and antiphlogistic treatment fail to check the complaint. If matter form, a free and depending opening becomes immediately indicated. Cold lotions are much more effectual in arresting phlegmonous erysipelas than warm applications; a fact confirmed by Baron Dupuytren's experience, and, for many years, one that has influenced the editor's practice. The skin more frequently sloughs from phlegmonous erysipelas of the lower limbs, than from the same disorder on the head and face; a circumstance ascribed by Dupuytren to the great depth of the tibial and fibular arteries, their considerable distance from the skin; while the temporal and occipital arteries lie directly under the integuments, to which they afford a very free supply of blood. Also, since the cellular tissue chiefly affected lies under the aponeurosis of the tendon of the occipito-frontalis muscle, a reason may be discerned why the disease should produce less injury of the vessels supplying the skin of the head. Baron Dupuytren, in the whole course of his experience, has seen but one example of sloughing of the scalp from erysipelas. — Ed.

of the cuticle, as the part that has passed through the action is healing.

In the SECOND, the vesicles break in the part first affected, and the erosive fluid produces tracts of sanious ulceration as the redness advances.

Under the present and the preceding species is included the *IGNIS SACER* of the ancients; about which much has been written, but which has been seldom understood, and never hitherto received a clear methodic position. The author has taken some pains upon the subject, and trusts he will be able to establish the true boundary and character of a disease, not more frequently described by the physicians, than celebrated by the poets of antiquity.

The common error has consisted in making the *ignis sacer*, or holy fire, an exanthem or eruptive fever; an erysipelas or a pestis; or some other idiopathic fever of the same order. There is no doubt, indeed, that, like the erysipelatous erythema, it has at times been met with as an accompanying symptom in pestis; and, when we shall come to treat of this disease, a distinct notice will be taken of the variety which such an accompaniment produces, and of which the plague of Athens seems to furnish us with a tolerable example; but the *ignis sacer*, in its genuine and simple state, instead of being marked with a low eruptive fever, has often very little fever of any kind; certainly nothing more than symptomatic fever, and by Celsus is described as being best cured by an ephemeral, or any other fever which may give increased action to the system; hereby proving that this, like the entire group of erythemas, is a result of debility.

In ancient times, some diseases were supposed to be inflicted on mankind by the special interposition of the Divinity, or of his ministers; and to these was assigned the name of *sacer*, or holy; though the peculiar crimes for which they were inflicted, or the names of the particular persons, who in this manner first drew down the special vengeance of Heaven upon their atrocities, have not been communicated to us. The later term of Saint or Sanctus, as in St. Anthony's fire or St. Vitus's dance, are of parallel origin, and express corporal punishments first inflicted by the agents or supposed agents of the Deity, whose names they respectively bear. *Ignis* is a term expressive of the heat, redness, acrimony, and erosive power of a disease; and is hence applied to the present, in common with many other affections.

The best description of the *IGNIS SACER* that has descended to us from the Roman writers is that of Celsus. He represents it as a genus comprising two species; the first of which is precisely parallel with the species before us, and the second with the *erythema gangrenosum*, or the preceding; and, in order to prevent any doubt upon this subject, the definitions of both species are here given, as nearly as may be, in the words of Celsus himself:—"It has," says he, "two species; one (the vesicular erythema of the present system) is reddish, or a mixture of redness and paleness, rough, with approximating vesicles (*pustulae*), none of which are larger than the rest, and which, for the most part, are very small. In these are almost always found a fluid (*pus*), and often a red

GEN. VI.  
SPEC. IV.

Erythema  
vesiculare.

β E. vesiculare  
corrosivum.

General  
remarks.

Ignis sacer  
synonymous  
with this and  
the preceding  
species.

Common  
erroneous view  
of *ignis sacer*;

usually accom-  
panied with  
but little  
pyrexia.

A result of  
debility.

Import of *sacer*  
in medicine.

Sanctus, or  
Saint.

Description  
from Celsus.

His first species  
synonymous  
with erythema  
vesiculare.



GEN. VI.  
SPEC. IV.  
Erythema  
vesiculare.

His two varieties of this species.

His second species synonymous with erythema gangrenosum.

Import of pustulæ in Celsus, synonymous with φλύκταιναι of the Greeks.

Hence ignis sacer an erythema. Medical treatment.

Found as a symptom or sequel in other complaints.

colour with heat."\* Then follows his description of the two varieties just given; the benign and erosive, in the following words: — "sometimes it trails along, the part healing that was first diseased;" corresponding with the variety  $\alpha$  of the present system: and "sometimes the part ulcerating; in consequence of which the vesicles (pustulæ) break, and the ulceration keeps spreading, and the fluid escapes;" alike corresponding with the variety  $\beta$ . Celsus then passes on to describe his second species, which answers to the character and almost to the words of *erythema gangrenosum*, or that we have just considered. "The other species," says he, "consists in an ulceration of the cuticle, without depth, broad, sublivid, but unequally so; and the middle heals, while the boundary lines advance; yet not unfrequently the part that seemed healed again becomes exulcerated; while the neighbouring parts, which are about to receive the disease, grow tumid and hard, and change from a blackish hue; the disease chiefly attacking the legs."

In this passage, the words fluid and vesicles are by Celsus named pus and pustulæ; but that he hereby meant vesicles, and an ichorous fluid, the φλύκταιναι of the Greeks, is clear; first, because Celsus thus explains the term in another section of the same chapter; and secondly, because in the ignis sacer, which, as we learn from Thucydides and Lucretius, was a symptom in the plague of Athens, the former has given us φλύκταιναι, or vesicles, as the peculiar character of the eruption: — "Yet the body," says Thucydides, "was not outwardly very hot to the touch, nor pale; but reddish, livid, and efflorescing with minute phlyctænæ (vesicles) and ulcers †;" which Lucretius has thus forcibly rendered: —

Et simul ulceribus quasi inustis, omne rubore  
Corpus, ut est, per membra SACER quom diditur IGNIS.

Wide-tinged with purple dye, and brandish'd o'er  
With trails of caustic ulcers, like the blaze  
Strew'd by the HOLY FIRE.

It is perfectly clear then, I think, that the IGNIS SACER of the Roman writers, was an erythema, chiefly vesicular, and sometimes gangrenous. It is also perfectly clear, that the present, like the preceding, species of erythema is the result of local or general debility, and requires warm and active local applications, and a tonic and bracing regimen. By later writers, however, the term is sometimes more generalised, and, like pestilence, is employed to denote other affections than the genuine ignis sacer, though making an approach to them.

Where the skin is slightly broken, and the acrid fluid oozes through the minute openings, the vesications should be frequently dusted, as already recommended under the second species, with chalk or starch; or, where the latter is too harsh and drying, with a mixture of equal parts of starch and finely levigated calamine; carefully abstaining from all oleaginous or other applications that have a tendency to augment the relaxed state of the fibres.

I have observed, that the vesicular erythema is found, at times, as a symptom in plague; it is also occasionally found in the one or

\* De Medicinâ, lib. v. cap. xxviii. sect. iv.

† Hist. ii. 50.

other of its varieties, as a sequel on the exhibition of mercury in irritable habits; and, under this form, has been occasionally denominated by authors *erythema mercuriale*, and *hydragryria*, as we shall have occasion to notice still further, when treating of syphilis.

GEN. VI.  
SPEC. IV.  
*Erythema*  
*vesiculare*.

## SPECIES V.

### ERYTHEMA ANATOMICUM.

#### ERYTHEMA FROM DISSECTION.

INFLAMMATION WITH LANCINATING PAINS ABOUT THE AXILLA, SHOOTING DOWN THE CHEST, USHERED BY SEVERE RIGORS AND ANXIETY; SUCCEEDING RAPIDLY TO THE DISSECTION OF A FRESH CORPSE, WITH A PUNCTURE OR ABRASION ON THE HAND OF THE ANATOMIST; BLUSH A DEEP CRIMSON, WITH A SPONGY FULNESS, CHIEFLY OVER THE PECTORAL MUSCLE: FEVER A TYPHUS.

IN our opening remarks on the present order of INFLAMMATIONS, we adverted to the diffuse and ulcerative kind, which is often found to take place in the cellular membrane, though rarely limited to this texture, from a variety of apparently slight causes, under a peculiar condition of the organ locally affected, or of the idiosyncrasy, or of the habit or manner of life. These causes are very numerous, and in themselves of very different character, notwithstanding the similarity of effect which they often superinduce. Some of them are of a mechanical, others of an animal origin; some are general, others specific irritants; but in every instance the cause, when first glanced at, is so seemingly minute, that nothing but an established experience of the fact, from a redundancy of repetitions, could induce us to predicate so serious and often fatal a result. Among the more common of these causes are venesection; the exposure of a pricked or pimpled finger to the fluids of a recently dead subject; the bite of a venomous serpent; the application of various secreted irritant or chemical acrids to an abraded part of the cuticle; and a small, superficial, but jagged wound, made by a flesh-hook, or other mechanical instrument.

Now all these causes, with the exception of the bite of a venomous serpent or other animal, are perpetually taking place without any mischievous effect whatever. And hence it is obvious, that, unless there be some kind of aberration from the common law or powers of health in the part affected, or in the general frame of the individuals that occasionally suffer from the application of such causes, and thus evince an exception to the ordinary course of nature, there could be no mischievous effect at any time. Of the peculiarity of this aberration, or morbid susceptibility of impression, we know little or nothing. Intoxication seems to have been a predisponent in a few instances; but, as this has not uniformly acted, there must, even at the time, be a something independent of such an excitement, how much soever it may serve as an auxiliary.

GEN. VI.  
SPEC. V.

Diffusive  
cellular in-  
flammation  
common from  
numerous  
causes.

But usually  
some constitu-  
tional affection  
coincides with  
them.

## GEN. VI.

## SPEC. V.

Erythema  
anatomicum.

The symptoms  
from such  
causes, though  
often similar, in  
some of them  
differ essentially;  
particularly where  
dissection is a  
cause; as also  
in the bite of  
the more  
venomous  
serpents.

The former  
peculiarly en-  
titled to at-  
tention.

Anatomic  
erythema long  
observed, but  
not much  
noticed till of  
late.

Its frequency  
within a few  
years.

General  
characters :  
occasional  
discrepancy.

The cause dif-  
ferently ac-  
counted for.  
Hypothesis of  
simple irrita-  
tion : of pu-  
trefaction : of a  
specific virus.

The second the  
weakest and  
least adequate :  
though still  
adopted by  
Magendie and  
other high au-  
thorities.

Although the symptoms issuing from such causes brought into a state of activity evince, both in their local and constitutional march, a striking degree of resemblance, as well as of uniformity in their descent from case to case, yet they are often not without a considerable degree of anomaly and discrepancy of character, with the exception of those which proceed from the apparent contagion of a recently dead body during dissection, or from the bite of the more venomous serpents. The former affection is peculiarly entitled to our attention, from the undeviating tenor of its progress, the frequency of its occurrence, and the wonted fatality of its termination; and an enquiry into its nature may possibly lead us to a somewhat better comprehension of the character of diffuse cellular inflammation from the venom of the more poisonous serpents. The writer has hence given it, for the first time, a distinct, and, as he believes, a deserved place in nosology, and trusts that the name he has assigned to it will meet with the approbation of the profession.

The effect itself has been long observed, and occasionally adverted to; sometimes, indeed, loosely described, though it has not, till of late, very minutely engaged the attention of pathologists. But the repeated cases that, within little more than the last two years, have occurred in England\*, Scotland, and Ireland, and have been separately reported by authorities of high reputation, have in the present day fixed the attention of the public upon the subject, and given it an interest that will, no doubt, lead to much clearer views than we are yet in possession of. The third volume alone of the Dublin Hospital Reports contains three cases of this kind, communicated by Dr. Colles†; and the first volume of the Transactions of the Medico-chirurgical Society of Edinburgh, not less than eleven communicated to, or drawn up from personal observation, by Dr. Duncan, junior‡: in all of which the leading characters are the same; and particularly in the diffuse blush and spongy feel in the integuments of the side, and the typhous career of the accompanying fever: the chief discrepancy being in the degree of pain or inflammatory action in the vicinity of the pricked or abraded part which formed the inlet to the disease.

But while the fact is thus generally admitted, the immediate cause has been very differently explained: some writers having ascribed the inflammation to simple irritation in a constitution or idiosyncrasy of peculiar excitement; others to the irritation of a putrescent fluid; and others again to a specific virus.

The weakest and most inadequate of all these hypotheses is the second, or that which supposes the inflammation to proceed from an absorption of some part of the fluids of the body in a state of PUTREFACTION. Yet it is the hypothesis still adopted by many pathologists of established name, and especially by M. Magendie, if we may judge from his account of the fate of Professor Lœcler, who died, as he tells us, “in consequence of the absorption of putrid miasms, which took place by a slight abrasion on one of the

\* Case of Dr. Pett, communicated by B. Travers, Esq.—Case of Mr. Newby, by Dr. Nelson, Medical and Phys. Journ., Feb. 1823. Id., Aug. 1823.—Case of Mr. Rainer, by Dr. Barlow. Edin. Medico-Chir. Trans., vol. i. p. 563.

† Fatal Consequences resulting from slight Wounds received in Dissection, p. 201. Dubl. 8vo. 1822.

‡ Cases of Diffused Inflammation, &c. pp. 492, 524., and 563. Edin. 8vo. 1824.



fingers of the right hand."\* It is an insuperable objection to this tenet, that the disease has occurred in almost every instance upon the dissection of a fresh body, and very rarely after putrefaction has taken place; frequently, indeed, when the examination has been made within twenty-four hours, and, in the case of Dr. Pett, within twelve hours, after death. "All the cases," says Dr. Duncan, "which I have observed, or of which I have had accurate reports, except that of Mr. Whitlaw, and No. xvii, occurred after the examination of recent bodies, before they were interred."† It is highly probable, indeed, that the process of putrefaction destroys the specific virus, and consequently takes off its effects: and such is the expressed opinion of Dr. Colles‡: and that, in the few cases in which local or constitutional symptoms have followed the dissection of a putrid body, it has rather been from the action of the putrid matter, as a simple acuant on an irritable constitution, than from any specific influence. Dr. Duncan's two cases of affection, when the body was putrescent, afford a striking confirmation of this opinion, instead of opposing it; for the first patient is described as being of a nervous irritable temperament, and the second as being of scrophulous habit.

Under such and similar circumstances, even mechanical and chemical irritants, and diseased secretions of various kinds, though otherwise sufficiently innocuous, are often found to excite not only local but diffuse inflammation, and a sympathetic fever that has sometimes proved dangerous, and even fatal; the symptoms, indeed, being often a pretty close copy of those characterising the disease before us. And hence many pathologists of the present day, chiefly from the difficulty of detecting a specific virus, have ascribed all the cases of anatomical erythema to the same cause of SIMPLE IRRITATION in a frame thus constituted.

But, in the first place, the disease before us has an essential difference from all the other sources of inflammation in the manner of its onset, and in the state of the affected part; while all the rest OFTEN WITH LOCAL INFLAMMATION, originating at the point of injury; the inflammation spreading thence visibly towards the shoulder or axilla, and followed by fever and constitutional disturbance as the result of the local mischief; the anatomic erythema COMMENCES WITH FEVER AND CONSTITUTIONAL DISTURBANCE, while the inflammation first shows itself about the shoulder or axilla; the local point of injury remaining little if at all affected by inflammatory action. There is often, indeed, a severe and lancinating pain, which darts upwards from such point; but, except in a particular description of cases, which we shall notice presently, there is no inflammation worth noticing, even when the pain is altogether intolerable.

And, secondly, the plurality of individuals, who have frequently been affected at the same time, as well as with precisely the same train of symptoms, and who have propagated the disease to their attendants, leads us, almost irresistibly, to the same conclusion of a specific source of impression as in other cases of propagable contagion. The same subject that gave rise to the complaint, which ter-

GEN. VI.  
SPEC. V.  
Erythema  
anatomicum.  
Insuperable  
objection to it.

Putrefaction  
probably de-  
stroys the  
specific virus.

Hypothesis of  
simple irritants  
examined.

Objected to  
from the cause  
of the symp-  
toms com-  
pared with  
those of ery-  
thema anatomicum.

Specific virus  
obvious from  
the plurality  
of persons  
affected at the  
same time, or  
from each other.

\* Précis Élémentaire de Physiologie, 2 tom. 8vo. Paris, 1817.

† Trans. Medico-Chir. Soc. Edin., vol. i. p. 565.

‡ Dublin Hospital Reports, vol. iii. ul suprà.

GEN. VI.  
SPEC. V.  
Erythema  
anatomicum.

Additional  
illustration.

minated fatally in Dr. Dease, originated it also, though not to a fatal extent, in Mr. Egan.\* The cases of Mr. Blyth and Mr. Young, narrated by Dr. Duncan†, were, in like manner, derived from a common dissection, as were those of Mr. Hercey, Mr. Hennen, and Dr. Dumbreck, communicated from the same authority; in each of which, also, one of the anatomists fell a sacrifice, while the others were fortunate enough to recover.

The following, forming another proof, from the pen of Dr. Duncan, is perhaps still more to the point. "Dr. Cumming, a medical practitioner in this city, was present 30th September, 1821, at the dissection of a young woman who died from puerperal fever. Took no share in the dissection, except introducing a fresh thread into the needle which was employed in sewing the body, and was not aware of an abrasion, or having punctured himself in the act of threading. *About eight hours thereafter*, felt an uneasy sensation in the middle finger of the left hand, at the inner side of the flexure of the first joint; when, on examination, there was discovered an angry pimple. Passed a restless night; towards the morning, had a severe rigor, to which supervened symptoms of pyrexia." The disease became established, and, though its progress was less rapid and decisive than general, the patient expired on the eleventh day from the attack. The case, however, is here particularly selected, because it appears that a female who was employed to wash, in the evening after the above dissection, a towel that, in the course of it, had been used instead of a sponge, scratched her finger with a pin which was left in it, and received the same disorder, in a milder, indeed, though still a very alarming degree; but from which she ultimately recovered.

Other examples  
unnecessary.

It is unnecessary to accumulate examples. Whatever be the difficulty of conceiving the existence of a specific virus generated shortly after death, and before putrefaction takes place; it is far more difficult to withhold our assent from such an explanation, or to account for such effects upon any other principle.

Physiological  
illustration.

It may perhaps, in a slight degree, assist the pathologist in his future enquiries into this obscure subject to observe, that we have ground for believing, that a new and active compound of some kind or other is constantly forming antecedently to the process of putrefaction, at the moment the living power, as well in plants as in animals, is ceasing to exist, and a play of affinities commences, which this power has hitherto restrained. In plants, this usually appears in the form of a saccharine principle, perhaps a saccharine acid; among mankind, in that of a phosphoric acid, and often, from its combination with other elements, of a phosphorescent light. This is particularly the case with those animals that have a peculiar power of emitting, and, perhaps, of secreting light while alive, as the glow-worm, the lantern-fly (*fulgora*), and the *cancer fulgens*, among insects; among shell-worms, the phola, *medusa phosphorea*, and various molluscæ; and, amongst fishes, most that inhabit salt-water.‡ All these are found to pour forth a succession of light after their death, till putrefaction commences, but no longer. Yet

Saccharine  
principle  
formed in  
plants as the  
life decays.

Phosphorescent  
light in animals  
recently dead  
only.

\* Dublin Hospital Reports, vol. iii. ut suprà.

† Trans. Medico-Chir. Soc. Edin. vol. i. ut suprà.

‡ Hulme, Experiments, &c. on the Light which is spontaneously emitted from various Bodies. Phil. Trans. 1800.

something of the same kind seems also to take place in various other animals under certain circumstances;—perhaps in all. M. Cuvier tells us, that M. Percy, who, during twenty-five years of war, had under his care more than a million of wounded, and had often been obliged to dress wounds in the dark, had frequently observed a phosphorescent light to issue from them, especially when extensive and dangerous, and where the living power was at a very low ebb. And he found, also, that the best way of rendering this emanation visible, is that of applying an aqueous fluid, as in the case of reviving the phosphorescent light of the recently dead animals we have just noticed. “In one instance,” says he, “a vivid light, a true *ignis fatuus*, existed for more than six days over the wound of an officer who had been dressed with compresses, wetted with pure water only.”\*

I pretend by no means to say, that the new and active, but virulent and contagious material, formed, and perhaps always in the human, and apparently in other animal bodies, on the cessation of the living principle, and when the laws of chemistry, hitherto held in subjection by the operation of this principle, now begin to assert their sway, is of either of the kinds I have thus adverted to; I have only endeavoured to draw the attention of the physiologist to the subject, by showing that some peculiar and extraordinary compounds, of a very diffusive and active kind, are assuredly formed on the immediate termination of life, and to urge him to a search after compounds that have not hitherto been explored.

Be the contagious material, however, what it may, it appears to pervade equally all the fluids of the decomposing body, whether natural or morbid: for the disease has followed where the punctured hand has been merely immersed in genuine pus† that has flowed from an abscess of the stomach, or some other viscus, as well as where it has merely come in contact with the lubricating lymph of serous or mucous membranes; and, as already observed, where it has only touched a towel or a sponge, employed in wiping up the fluids, or other materials that have required removal in the course of an examination, or even a thread wetted with the same and pressed through the eye of a needle.

Nor does the character of the contagious material appear to depend in any degree upon the nature of the disease of which the subject submitted to dissection has died. It has followed cases of dropsy, of pulmonary affection, of enteritis, of puerperal fever, of aneurism, and of Cæsarian section.‡ So that the nature of the preceding disease has as little connection with the virus, as the process of putrefaction.

The ordinary progress of the complaint cannot be better described than by copying the sufferings of Professor Dease. His demonstration took place on a recent subject, on February 13, 1819, at one o'clock. He awoke early the ensuing morning with severe rigors, sickness, and acute pain in the left shoulder. On the next day, a slight fulness was observed above the clavicle along the left side of the neck, which could not bear the slightest pressure. On the day

GEN. VI.  
SPEC. V.  
*Erythema  
anatomicum.*  
Issuing from  
the surface of  
wounds.

This illustration  
how far  
applicable.

The virus pervades all the  
fluids of the  
dissected body.  
Exemplified.

Does not de-  
pend on the  
nature of the  
previous  
disease.  
Exemplified.

Progress of  
the disease.

\* Analyse des Travaux de l'Académie des Sciences de Paris pour 1819.

† Case, Lond., &c. Phys. Journ., Aug. 1823, p. 123.

‡ Duncan's Cases in Trans. Medico Chir. Soc. Edin., ut suprà; as also p. 500.



GEN. VI.  
SPEC. V.  
Erythema  
anatomicum.

succeeding, a colourless swelling was noticed about the axilla, which first suggested the real nature of the complaint: and, on examining the hand, there was found by Dr. Colles the mark of a slight scratch with a superincumbent vesicle. He appeared to improve a little for a day or two, though full, florid, and crimsoning erythema occupied the side in the region of the pectoral muscle, extending downwards. On the morning of the nineteenth, he showed delirium, and a vesicle appeared on his fore-arm, which remained stationary to the last. By the next day the erythematous swelling had extended over the entire side of the body from a little below the axilla to the hip; and the swollen part became studded pretty thickly with indurated papulæ; the delirium being more confirmed. On the twenty-first, the inflammation completely involved the axilla, and, on its posterior edge, an abscess seemed to have formed, though there was no fluctuation. At this period, the opposite, or right arm, exhibited an intumescence on its anterior part, occupying about a hand's-breadth of the flexor muscles, which was punctured on the same evening, and discharged about a tea-spoonful of serous fluid, but without relief; and, within an hour or two afterwards, being the eighth day from the accession of the disease, he expired.

Erythematic  
blush a patho-  
gnomonic  
symptom.

Swollen parts  
sometimes  
crepitate.

Sometimes ex-  
treme pain in  
the punctured  
spot, but with-  
out inflam-  
mation.

Nature of the  
fever.

Fatal issue.

Sometimes  
more favour-  
able.

Prognosis in  
such cases.

The pathognomonic blush that spreads over the region of the pectoral muscle has a peculiar feel, that is not easy to be described; it yields to pressure like a quagmire, or piece of sponge; and is hence called boggy by Mr. Lizars\*, and doughy by Dr. Colles.† In the case of Dr. Pett it was found by Mr. Travers‡ to crepitate, a secretion or extrication of air having apparently taken place. There is often a considerable degree of uneasiness in the punctured or abraded spot, which has proved an inlet to the virus, sometimes, indeed, amounting to an agonizing and intolerable pain, though without any visible show of inflammation, or too slight to be regarded. The accession of the fever is usually accompanied with great anxiety and dejection of spirits, and often an unwonted irritability of temper. The nervous and depressing character of the fever is, indeed, obvious from the first, and the patient rarely rallies into any degree of hope, or composure, where it proceeds to a fatal termination.

In very many cases, however, its issue is of a happier kind; and where this occurs, sometimes, about the eighth day, a gentle diaphoresis or diapnoë lubricates the harsh and burning skin, a sound and refreshing sleep succeeds, the pain and inflammation diminish, and the patient advances to recovery in a straight path. But, more generally, an effort is made to form lodgments of imperfect pus, bloody serum, or gangrenous ichor, often of all these combined, in particular parts of the affected side, most commonly indeed in the axilla; which swells into an enormous bag, and, if not opened by art, bursts spontaneously, and discharges the complicated and pent-up fluid to an amount of several pints; the whole of the cellular membrane on the affected side being broken down into the general mass, with numerous sloughs, and skeins of fibres

\* Trans. Medico-Chir. Soc. Edin., vol. i. p. 496.

† Dublin Hosp. Reports, vol. iii. ut supra.

‡ Lond. Med. and Phys. Journ., Feb. 1823, p. 176.

detached from the adjoining muscles and thrown out in loose bundles. The cure is long, and doubtful, in proportion to the range of the ulceration, and the extent of the gangrene: and the patient is often so much reduced as to be in danger of falling a sacrifice from hectic fever or some other secondary affection. But when he has reached this stage, he generally succeeds in the end, though the skin over the injured part is considerably shrivelled, from the loss of the cellular texture beneath, and often attached to the sub-adjacent muscles.

Such is the progress of the disease when the contagion meets with a habit or constitution favourable to its mischievous action, and which yields at once to its influence. But, as in other contagious, so, in the present, we perceive a striking diversity in this respect. The habit, or idiosyncrasy, of most anatomists fortunately renders them altogether unsusceptive of its impression, and they escape from its arrest. And hence, in all probability, the reason why but few comparatively are ever affected with this fearful complaint, though handling dead bodies for years, and with hands clapped or punctured in various points.

There are others who seem to possess constitutionally a modified protection, though they cannot escape altogether; in whom the virus finds a less easy course of absorption, and, by being delayed in its progress towards the axilla, opens its assault at the point of contagion, becomes concentrated, and spreads its chief brunt in that quarter. In this case, the disease commences with local, instead of with constitutional symptoms, and the latter are even at last rather a sympathetic sequel, as in numerous cases of simple irritants, than a diacritical part of the disorder. The punctured hand or finger is not only vehemently painful, but swells and becomes considerably inflamed; the inflammation, characterised by heat, redness, pain, and enlargement, gradually shoots up the forearm; and if not checked in its progress, ascends to the shoulder, and fixes itself in the axilla, or spreads still further into the side of the chest. But the virulence is usually diluted as it widens; and, though the constitution suffers much from symptomatic fever, the inflammatory action is often confined to the arm alone, where it seems to aim at forming a chain of abscesses from the hand to the elbow, and sometimes to the shoulder or axilla.

This distinction is so clearly marked and closely adhered to, that I have scarcely ever heard or read of a case that proved fatal, where the disease has opened with local inflammation, nor often where it has been accompanied with any great degree of danger: while, on the contrary, nothing can be more dangerous than the same disease, where the constitutional symptoms take the lead. And I gladly avail myself of a confirmation of this remark by my distinguished friend, Mr. Travers, published since the preceding edition of the present work, in which it occurs in the same words: "Inflammation is not necessary to the most virulent and fatal action of the poison; and, in general, I should be disposed to say of these cases, that the symptoms of local inflammation and constitutional irritation exist in an inverse ratio of severity."\* In a few instances a most offensive smell has been found to accompany the diaphoresis

GEN. VI.  
SPEC. V.  
Erythema  
anatomicum.

Occasional  
fatality from  
secondary  
effects.

A peculiar  
habit or  
idiosyncrasy  
necessary for  
the virus to  
take effect.  
Such habits not  
common, and  
hence, very  
numerous  
escapes.

In some the  
habit or  
idiosyncrasy  
only partially  
protects.

Progress of the  
disease in such  
cases.

Commences  
locally instead  
of constitu-  
tionally:

and is less  
virulent.

This distinction  
clearly marked  
in practice.

Occasionally  
an offensive  
odour bursts  
forth from the  
body, accom-

\* Enquiry concerning Constitutional Irritation, &c. p. 203. 8vo. 1825.

## GEN. VI.

## SPEC. V.

Erythema  
anatomicum.panied with  
profuse sweat.Generally  
critical and  
favourable.Erythema from  
bite of venom-  
ous serpents,  
and especially  
the rattle-snake,  
approaches the  
nature of the  
present ;  
but is still  
more violent  
and rapid.General  
description.

which occasionally breaks forth over the body. In the case of Mr. Whitlaw, Dr. Duncan describes it as "a profuse dark-coloured clammy sweat, of a smell so exceedingly fœtid and disagreeable that it could neither be borne by the patient himself, nor by his attendants. It was in such abundance as not only to wet his body-clothes, but also the bed-clothes, and stained them of a dark colour, so that they could with difficulty be washed white again. When the patient awoke out of this state of slumber, in which he had continued during the perspiration, he felt great relief of all the symptoms."\* The diaphoresis was in fact critical; and, so far as I have seen, it never occurs but in those that recover; and usually, if not always, is an accompaniment of the disease where the local symptoms take the lead, and in a considerable degree concentrate the virus. It must not, therefore, be confounded with that cadaverous smell, which is sometimes emitted from the body a short time before death, and is a melancholy harbinger of that event.

The inflammation that most nearly resembles the erythema before us, is that produced by the bite of the more venomous serpents, and especially of the rattle-snake; and as, in all these cases, a specific virus is universally admitted, analogy, in addition to the reasons already urged, leads us to a like cause in the present instance. The chief difference is in the greater degree of virulence or malignity that characterises the serpent's fang, and the greater rapidity of its mischief. A bite from the fang of the cobra de capello, or hooded snake, the *coluber naja* of Linnæus, generally destroys life in twenty-four hours, and from the fang of the rattle-snake (*crotalus horridus* Lin.) in a shorter time, if no curative means be had recourse to.† In both, the local and constitutional symptoms take place nearly simultaneously, and persevere in their double attack. The bitten limb swells instantaneously from the part affected, and the inflammation shoots with great speed up its entire length to the body; and, if it be the arm, associates the axilla in its malignant career; and, if life continue long enough, darts down the side over the pectoral muscle, and produces there the same kind of erythema as in the disease before us. The vital principle, however, is, from the first, exhausted suddenly, as though by a stroke of lightning; the blood ceases to flow in the smaller vessels of the swollen part; the superincumbent skin feels deadly cold; the action of the heart is so weak that the pulse is scarcely perceptible; the stomach so irritable that nothing can be retained on it; dejection and horror overpower the mind, and a low muttering delirium forms the closing scene.

\* Trans. Medico-Chir. Soc. Edin., ut suprà, 505.

† This statement requires to be modified. The bites of venomous snakes are very unequal in their consequences, according to the season of the year and the climate; the empty or full state of the poison receptacles at the period when the reptiles bite; the constitution of the bitten person; the penetration of the fang into a vein; and other influential considerations. We have the authority of Professor Gibson, of the United States, in support of this statement. Instances occur, both among the Indians and the white people, who inhabit the mountainous and thinly settled parts of the American States, of almost instantaneous death from the bite of the rattlesnake. On the other hand, he says, it is certain that many persons wounded by this animal have sustained very trivial injury. (See Gibson's Institutes of Surgery.) The poisons of serpents are well known to be most powerful in hot weather, and the procreating season. — Ed.



Very powerful stimulants applied instantly may postpone the catastrophe, and sometimes, even in the bite of the rattle-snake, produce a cure; but, if the tide of life be kept moving till the venom has exhausted its malignity, the debility is usually so extreme, that the unhappy sufferer too often falls a victim to the local mischief, when he has even triumphed over the constitutional assault.

A striking example of this occurred a few years ago in St. George's Hospital, in a patient whose progress the present writer watched with deep interest. He took notes on the occasion: but the account has been since given so much more minutely by Sir Everard Home, that he will chiefly copy from his statement.\* The patient, by name Thomas Soper, twenty-six years of age, attempted, Oct. 17, 1809, to raise a rattlesnake, confined in a cage in a public show-room in Piccadilly, by irritating him with a foot-rule, but the snake continued quiet. The foot-rule was dropped into the cage, and the man had the rashness to introduce his hand to take it away. The serpent instantly seized upon it, and bit it in two places. The bites took place at half-past two o'clock p.m.; and the wounded man instantly applied to a neighbouring chemist, who gave him a dose of jalap, as he considered him in a state of intoxication, from the incoherency of his language, which was probably the effect of great terror. The hand almost immediately began to swell, and he applied for aid at St. George's Hospital by three o'clock, or within an hour after the attack. The swelling had, by this time, extended half way up his fore-arm: the skin on the back of the hand was very tense, and the bitten part acutely painful. At four o'clock, the swelling had gained upon the elbow; and at half-past four, the pain had extended to the axilla, and the swelling within a short distance of it: the skin was cold, the pulse beat a hundred strokes in a minute; the man complained of sickness, but his answers were incoherent. Ammonia, camphor, and ether were freely administered internally; and the two former were also applied externally.

The symptoms continued to augment, with the exception that the patient was collected at times, and expressed a hope of recovery; but, for the most part, his mind was greatly dejected, and it was often difficult to keep him from fainting. The arm was quite cold; but the swelling extended to the shoulder, and down the side of the body, producing a fulness with evident extravasation of blood, as low as the loins, and giving a mottled appearance to the back on the right side. The surface of the swollen part was very extensively vesicated in the course of the present day (the 18th); there was a tremulous motion of the lips; the fainting fits were perpetually recurring; his limbs twitched; his stomach rejected what was introduced into it; and the skin of the whole arm had a livid appearance similar to what is met with in a dead body. Brandy and opium were now given him instead of ammonia, but in the ensuing morning his pulse was scarcely perceptible; his extremities were cold, and he spoke in whispers. He was in this manner kept alive by nutritive and stimulant means; the constitutional symptoms appeared in five or six days to be di-

GEN. VI.

SPEC. V.

Erythema  
anatomicum.Sphacelus gene-  
rally destroys,  
if the first  
symptoms are  
recovered from.Striking  
illustration.

\* Phil. Trans., 1810, p. 75.

GEN. VI.  
SPEC. V.  
Erythema  
anatomicum.

Venom of less  
virulent ser-  
pents,  
approaches  
more nearly the  
nature of the  
local erythema  
anatomicum.

Mortality of the  
rattlesnake's  
venom com-  
pared with that  
of other ser-  
pents.

Remedial pro-  
cess not well  
known.

General hints  
upon the sub-  
ject :

Local treat-  
ment.

Constitutional  
treatment.

minishing, and the venom to have spent its force ; insomuch that the present writer made a minute on October 25th that " he seems, upon the whole, to be recovering." He had not, however, strength enough left to cope with the extensive mortification which had taken place in the arm and axilla, and died November 4th, at half past four in the afternoon.

In serpents whose venom is less virulent, a ligature tied a little above the bite, and continued for only an hour, will often prevent the action of absorption, and render the disease chiefly local ; in consequence of which, as in the local modification of anatomic erythema, the patient escapes with a far less degree of danger. But the most active and malignant of all the serpentine poisons is that of the rattlesnake. All other serpents have an immunity against each other's bite ; but the rattlesnake not only kills every other, and even its own kind, but, by being so far irritated as to inflict a personal wound, has been found to kill itself.

A highly stimulant diet, though most essential in the bite of the more poisonous serpents, does not seem to be of equal use in the erythema before us ; nor, in the slighter cases, has any benefit been found from the use of a ligature. The excitant plan has been tried by some, and the antiphlogistic by others ; but both have often failed, and a remedial mode of practice is still a desideratum.

Considering the great benefit that results from fixing the inflammation in the hand and fore-arm, it appears reasonable that our first attempt should be to concentrate or recall it towards the punctured or abraded part ; not by destroying the life of such part, as has too often been done, by caustics, but by powerful and pungent irritants, as camphor, turpentine, or ammonia. Or, if within half an hour or an hour from the date of the injury, by the application of cupping-glasses ; the great benefit of which practice in preventing the absorption of poison from venomous animals has been satisfactorily ascertained by Sir David Barry's experiments, as we have already had occasion to remark.\* Our next object should be to counteract the inflammation that takes place in the axilla and in the region of the pectoral muscle, by a free use of leeches or cupping-glasses ; while the constitutional symptoms should be opposed by opiates and sudorifics. We have already seen the high and critical advantage which has arisen from a general diaphoresis ; and the present author has observed more benefit from a free use of Dover's powder acting in this manner and allaying the nervous and constitutional irritation than from any other medicine whatever. In the meanwhile, the diet should be moderately stimulant, and the bowels must be kept duly open.

\* See his Experimental Researches on the Influence exercised by Atmospheric Pressure, &c. 8vo. 1826.

SPECIES VI.  
ERYTHEMA PERNIO.  
CHILBLAIN.

INFLAMMATION OF A CRIMSON COLOUR, SUFFUSED WITH BLUE;  
OBSTINATELY ITCHING; CHIEFLY AFFECTING THE EXTREMI-  
TIES DURING WINTER.

THIS species offers us the two following varieties:—

GEN. VI.

SPEC. VI.

- |                   |                                 |
|-------------------|---------------------------------|
| Simplex.          | The cuticle remaining unbroken. |
| Simple chilblain. |                                 |
| Exulceratus.      | Accompanied with ulceration.    |
| Kibe.             |                                 |

The extremities principally affected by the chilblain are the hands and feet; but, in very cold climates, the nose, ears, and lips are affected also, and the living power is destroyed as completely by combustion. So correctly has our great epic poet described the power of severe frost:—

Nose and lips  
sometimes  
affected.

The parching air  
Burns froze, and cold performs th' effect of fire.

That the pernio or chilblain belongs to the genus erythema is perfectly obvious, not only from its symptoms, but from the character of the age and constitution in which it is chiefly to be met with, and from the stimulant mode of treatment by which alone it is to be cured.

Proximate  
cause.

The proximate cause of chilblains is a diminution of the excitability or vital energy of the extreme vessels; and, as such diminution is most readily produced in children, or older persons of relaxed fibres, these are most subject to the disease. For, though we often meet with it also in strong and hardy boys, it will usually be found that the last, from the natural vigour and courage of their frames, have braved the cold and rigid reign of the winter season beyond the venture of their schoolfellows.

Local stimulants, then, are the only applications that will answer, and particularly those which serve at the same time to defend the weakened organ from the severity of the external air. Hence, oil-skin socks worn day and night are useful, and warm achylon or Burgundy pitch spread upon leather still more so. For the same reason, embrocations of spirits of turpentine, opodel-ec, liquor ammoniæ acetatis, or equal parts of vinegar and spirits wine, will usually be found serviceable. Linnæus recommends the part with diluted muriatic acid; and this has the advantage of being astringent as well as stimulant.\* The weak-

Treatment.

The weakened  
vessels not to  
be distended.

\* One part of the tincture of catharides, and six of soap liniment; equal parts of liq. plumbi acet. and laudanum; and a mixture of tincture of myrrh and liq. rubi acet.; form common and useful applications to chilblains which have not healed, or assumed the ulcerated state. — Eri.



GEN. VI.  
SPEC. VI.  
Erythema  
pernio.  
Hence fire to  
be avoided.

ened vessels should never be too much distended, and hence, though gentle warmth and stimulants are indispensable, great heat, and especially a near approach to a fire, and more particularly still when very cold, will always be found injurious. When the inflammation becomes ulcerated, or forms a kibe, warm and irritant dressings will alone succeed in effecting a cure; and, if fungous granulations should appear, which they are very apt to do in all sores accompanied with debility, they must be removed by a dressing of the unguentum hydrargyri nitrati, or some other mild escharotic.

## SPECIES VII.

### ERYTHEMA INTERTRIGO.

#### *FRET. EROSION OF THE SKIN.*

COLOUR OF THE INFLAMED PART BRIGHT RED; CUTICLE ERODED;  
THE EXPOSED SKIN OOZING A LIMPID AND ACRIMONIOUS  
FLUID.

GEN. VI.  
SPEC. VII.  
Cause.

THE fret, or erosion, which frequently takes place in different parts of the skin from an acrid secretion of the exhalants or sebaceous glands, and particularly behind the ears, about the groins, and around the anus, is usually accompanied with erythematic redness, or inflammatory blush; and is hence generally, and correctly referred to the present place. It is an erythema with weak, vascular action, and often considerable irritability in consequence of such weakness.

Chiefly found  
during den-  
tition.

Discharge  
offensive.

Cannot be  
checked too  
soon.

Treatment.

The most common example of this species is that which takes place behind the ears of children of a delicate habit, or who labour under irritation from teething, or from gross indulgence in luxuries. The discharge is often peculiarly offensive, and hence cannot proceed merely from defective absorption, for it would then be nothing more than saline without fetor. It cannot be checked too soon; for if it continue for a few weeks, or perhaps even less, it may acquire a habit, the suppression of which may run the risk of superinducing some worse disease than itself, as dyspepsy, diarrhœa, or convulsions. The organ affected should be kept well washed, to prevent the spread of the morbid secretion, and the discharge should be imbibed by dry and scorched rags applied to the part, or starch frequently dusted over it.\* But the irritability is here best subdued by the tonic and astringent powder of many of the metallic oxydes, particularly that of cerusse, which is one of the most valuable, as well as one of those in most common use.

\* J. P. Frank, De Cur. Hom. Morb., Epit., tom. iv. p. 113. Mannh. 8vo. 1792.

## GENUS VII.

## EMPRESMA.

## VISCERAL INFLAMMATION.

DERANGED FUNCTION OF A VISCERAL ORGAN, MEMBRANOUS OR PARENCHYMATOUS; WITH LOCAL PAIN; FEVER MOSTLY A CAUMA; INFLAMMATION MOSTLY ADHESIVE.

THE genus of diseases upon which we now enter, consists of that numerous collection of visceral inflammations which, from the time of Boerhaave, have been generally distinguished by anatomical terms derived from the organ affected, with the Greek term *itis* added as a suffix, as cephalitis, gastritis, carditis, and many others. *itis* is sufficiently significant of its purpose: it is immediately derived from *ειναι*, which is itself a ramification from *εω*, and imports, not merely action, "putting or going forth," which is the strict and simple meaning of *εω*, but action in its fullest urgency, "violent or impetuous action." As a suffix, therefore, we shall retain it in its common use, and proscribe it, to prevent confusion, from the few compounds, or proscribe the compounds themselves, in which this common use is departed from; as rachitis, hydro-rachitis, ascites, and tympanites, none of which convey any idea of violent or impetuous action, and some of which are peculiarly marked by a contrary state.

This application of a common term in composition to so large a number of visceral inflammations, and the general use of the term for long a period as that throughout which it has been employed, is sufficient proof, that practitioners have discovered between these inflammations other features of resemblance, than the general symptoms of inflammatory disorder. In the prosecution of the subject, we shall find, that this is the fact; and I have already observed, in the opening remarks upon the present order, that, with very few exceptions, the inflammation in all the diseases is of the adhesive kind, and the fever a cauma. With a view, therefore, of simplifying, as far as simplicity may be of real use, the present system will, for the first time, comprise the whole of these under one genus, here distinguished by the name of EMPRESMA, or internal inflammations; a term, in its simple form, employed first by Hippocrates and Galen, and which it seems necessary to revive for the present purpose.

Many of the organs included under the genus before us, and which we shall presently follow up in their respective order, sympathize with each other, and most of them with the stomach. The necessary consequence of which is, that the constitution is disturbed generally, though, in very different degrees, according to the organ affected; or, in Mr. Hunter's opinion, according to the different degree of its connection with the stomach.

If the heart, the lungs, or the brain be inflamed, whether primarily, or secondarily, as by sympathy, the stomach is peculiarly

GEN. VII.  
General explanation of the genus as importing visceral inflammation. Hitherto expressed by terms terminating in *itis*.

Hence importing a common relation.

Etymological meaning of Empresma.

General sympathy of the organs concerned: especially with the stomach.

Inflammation in the vital organs more

GEN. VII.  
Empresma.  
Visceral inflammation.

extensively felt  
than in other  
organs.

More rapid and  
more fatal.

Inflammatory  
symptoms vary  
in different  
organs.

Inflammation  
of the brain.

Inflammation  
of the heart.

Inflammation  
of the stomach.

Inflammation  
of the intestines.

Inflammation  
of the uterus.

These symptoms con-  
trasted with  
those of other  
parts less essen-  
tial to life.

influenced, probably from the essential importance of these organs to life itself (as all the vital organs, or those essential to life, maintain a very close degree of affinity); and the disease originating in any of these, has, in consequence, a more violent effect upon the constitution, than the same quantity of inflammation would have if it were not in a vital part, or in one with which the vital parts do not sympathise. The pulse, in such cases, is much quicker and smaller than when inflammation takes place in a common part, as a muscle, cellular membrane, or the skin. The progress, moreover, when the attack is so violent as to prove fatal, is, generally speaking, far more rapid than in other parts; so that, at its very beginning, it has the same effect upon the constitution, as a farther advance of an inflammation in other organs that is equally sure of proving fatal in its result. The debility commences early, because the inflammation itself is immediately interfering with actions essential to life; and, as already observed, the sympathy between these organs is peculiarly close, insomuch so as almost to make any single action common to the whole. \*

In inflammation of the brain, the pulse varies, perhaps, more than in inflammation in any other part; and we must rather depend upon other symptoms than upon the state of the pulse. It is sometimes quick, sometimes slow, sometimes depressed, sometimes full, according as the disease is characterised by the acute pain, delirium, stupor, or other concomitants.

When inflammation is seated in the heart, its action becomes extremely agitated and irregular. When in the lungs, the heart, possibly from sympathy, does not seem to allow of a free diastole.

If the stomach be inflamed, the patient feels an oppression and dejection through all the stages of the disease. The vital energy, or simple animal life, seems to be impaired and lessened in the same manner as sensation is lessened when the brain is injured. The pulse is generally low and quick; the pain obtuse, but urgent and overwhelming; so that the patient can hardly bear up under it.

If the intestines be affected, the symptoms are nearly of the same kind, especially if the inflammation be in the upper part of the canal; but, if it be seated in the colon, the patient is more roused, and the pulse is fuller than when the stomach itself is inflamed.

If the uterus be the organ attacked, the pulse is extremely quick and low: if one of the testicles, the pain is depressing, and the pulse quick without much strength. With the uterus, the testicles, and the intestines, the stomach peculiarly sympathises; often, indeed, as much as if itself were primarily affected. If we contrast these species of inflammations with those that attack parts not very essential to life, but with such a degree of violence as to produce universal sympathy and affect the vital functions, we shall find that, in the latter, the pulse is fuller and stronger than common; and the blood is pushed further into the extreme arteries. The attack usually commences with rigor; the patient then becomes somewhat roused because the action of the part is roused, and the effects on the constitution are not yet such as to impede the operations of the vital organs. Much, however, will still depend upon the nature of

\* Hunter, On Blood, &c. p. 325.



he parts, whether active, as muscles, or inactive, as tendons; as also upon the situation of the same description of part, and especially upon the character of the constitution; for, if the last be extremely irritable and weak, as in many woman who lead sedentary lives, the pulse may be as quick, hard, and small, even at the commencement of the inflammation, as in inflammation of the vital parts. The blood, moreover, may be sily, but will be loose and flat on the surface. It is singular to observe, how very rarely the pancreas is subject to inflammation, or even to disorders of any kind. "The pancreas," observes Dr. Baillie, "is upon the whole less liable to disease than any other important gland in the body.

do not recollect that, in private practice, I have met with one case in which there was satisfactory evidence of the pancreas being diseased; and I have only known of a solitary example of it during the thirteen years, in which I was physician of St. George's Hospital." \* [Now, however, that morbid anatomy is more extensively and zealously cultivated than it was thirty years ago, examples of diseased pancreas are more frequently met with. On the whole, however, the pancreas, like the salivary glands, to which it is analogous, is, comparatively speaking, seldom diseased. This subject is noticed in the preceding volume.]

Having premised these general remarks, we are the better prepared for examining the relations, which the numerous species, belonging to the present genus, bear to each other; and satisfy ourselves with a more summary account of several of them, than would otherwise be necessary.

These species are as follow:—

1. EMPRESMA CEPHALITIS.	INFLAMMATION OF THE BRAIN.
2. ———— OTITIS.	———— OF THE EAR.
3. ———— PAROTITIS.	MUMPS.
4. ———— PARISTHIMUS.	QUINSY.
5. ———— LARYNGITIS.	INFLAMMATION OF THE LARYNX.
6. ———— BRONCHILEMMITIS.	CROUP.
7. ———— PNEUMONITIS.	PERIPNEUMONY.
8. ———— PLEURITIS.	PLEURISY.
9. ———— CARDITIS.	INFLAMMATION OF THE HEART.
10. ———— PERITONITIS.	———— OF THE PERITONÆUM.
11. ———— GASTRITIS.	———— OF THE STOMACH.
12. ———— ENTERITIS.	———— OF THE BOWELS.
13. ———— HEPATITIS.	———— OF THE LIVER.
14. ———— SPLENITIS.	———— OF THE SPLEEN.
15. ———— NEPHRITIS.	———— OF THE KIDNEYS.

\* Lect. and Obs. on Medicine, by the late Matthew Baillie, M.D., 1825.

GEN. VII.  
Empresma.  
Visceral in-  
flammation.

16. EMPRESMA CYSTITIS.

INFLAMMATION OF THE  
BLADDER.

17. ——— HYSTERITIS.

——— OF THE  
WOMB.

18. ——— ORCHITIS.

——— OF THE  
TESTICLES.

## SPECIES I.

### EMPRESMA CEPHALITIS.

#### INFLAMMATION OF THE BRAIN.

PAIN IN THE HEAD; AVERSION TO LIGHT; FACE MORE OR LESS  
FLUSHED; CAUMA.

GEN. VII.  
SPEC. I.  
General patho-  
logical remarks.

THE pathology of cephalitis, or inflammation of the brain, is, in some degree, obscure and difficult, from the difference which occurs in several of its secondary or concomitant symptoms; occasioned partly, perhaps, by the difference of its exciting cause, partly by the particular portion of the organ that is primarily or chiefly affected, and partly by circumstances which seem to baffle all research. From this occasional difference of symptoms, some nosologists have endeavoured to establish as many distinct affections, and have hence multiplied a single specific disease into a considerable number of distinct species, and even genera, and treated of it under a fearful host of distinct names: and hence the disease before us has been described, not only under the term cephalitis, but under those of phrenitis, paraphrenitis, phrenismus, sideratio, siriasis, sphacelismus, typhomania, calentura, and a great many others, which have burthened the medical vocabulary, and perplexed the medical student.

Disease may  
commence in  
the membranes,  
or the substance  
of the brain.

The disease may commence in the meninges, or membranes of the brain, or in the substance or parenchyma of this organ. [In its activity, it varies from the highest degree of acute to the lowest degree of chronic or serofulous inflammation, and with numerous modifications, by which the different forms pass into one another by almost insensible gradations. It may terminate by serous effusion; by the deposition of false membrane; or by a peculiar softening of the cerebral substance.\*] If it were to confine itself strictly to the part first affected, instead of spreading from one part to another, there would perhaps be no great difficulty in determining, from the symptoms before us, its direct and actual seat; for while membranous and muscular inflammation, before the access of gangrene, is accompanied with an acute and rousing pain, great heat, and a pulse considerably and permanently quickened, parenchymatous inflammation is rather distinguished by a heavy and often a stupifying pain, a slight increase of heat,

Original seat,  
how distin-  
guishable.

\* See Abercrombie's Pathological and Practical Researches on Diseases of the Brain, p. 3. 8vo. Edin. 1828.

and a pulse irregularly quickened, sometimes sinking even below its natural standard.\*

Now both these conditions are occasionally found in different cases of cephalitis; and we may hence infer, that, in the one instance, the disease is seated chiefly, if not altogether, in the meninges, and, in the other, in some part of the substance of the brain itself, thus presenting to us the two following varieties:—

- |   |  |
|---|--|
| <p>α Meningica.<br/>Phrensy.<br/>Brain-fever.</p>   | <p>Pain in the head acute; intolerance of light and sound; cheeks permanently flushed; eyes red; watchfulness; delirium; pulse rapid.†</p>   |
| <p>β Profunda.<br/>Deep-seated inflammation of the brain.<br/>Acute dropsy of the head.</p> | <p>Pain in the head obtuse; cheeks irregularly flushed; pulse irregularly frequent; eyes oblique; sleep heavy, but unquiet; and occasionally interrupted by screams. Chiefly common to children.</p> |

The above clear and distinctive marks, however, by which the two varieties are separated from each other in exact cases, are not often to be met with; as each, for reasons already given, is apt to assume something of the character of the other.‡ And hence

GEN. VII.  
SPEC. I.  
Empresma  
cephalitis.  
Inflammation  
of the brain.

The varieties  
apt to run into  
each other:  
and hence not  
sufficiently  
noticed by  
nosologists.

\* Hunter, On Blood, &c. pp. 288, 289.

† Cruveilhier infers, from some cases, which he has published, that what he terms "la meningite sous-arachnoïdienne de la convexité du cerveau," has for its pathognomonic character a stupor gradually increasing to complete coma; and he is of opinion that delirium, exaltation of sensibility, delirium, and convulsions, are frequently entirely absent. (Ann. Pathol. (me livr.)) When this affection occurs towards the base of the skull, accompanied by acute dropsy of the ventricles, vomiting is set down by this pathologist as usually one of the first and most predominant symptoms, so as often to raise suspicion that the patient's disorder is in the stomach. — *Ibid.*

‡ The following remarks by Dr. Quain are judicious and interesting:—"An examination," says he, "of the structure of the brain, and of the peculiarities of the circulation in it, would also lead to the inference, that, if the meninges be the seat of inflammation, the contiguous cerebral substance must participate, in some degree, in the irritative influence. In other organs, the vessels, after entering them by trunks and branches of various sizes, branch out and ramify in their interior, until they become capillary in their spongy and areolar tissue. But, in the brain, a different arrangement takes place; the vessels, after entering at the base of the skull, communicate freely with one another, and then branch out upon the surface of the brain, ramifying in an extended web of cellular tissue (pia mater); in this way they become reduced to so great a degree of tenuity before they enter the substance of the organ, that it may be said to be surrounded by a vascular envelope, from which its supplies are derived. Hence it is, that as the meninges and the contiguous cerebral substance are supplied from the same source, each will, more or less, become affected by any inflammatory action set up in the other. M. Bayle, in his Thesis, gives six cases of what he considers chronic arachnitis, and in all of them the arachnoid membrane was thickened, opaque, and existing, and there was found some serous effusion; but, in five of these cases, portions of the cerebral substance were adherent to the membranes, and so much softened, as to be brought away with the latter, when an effort was made to detach them; in five of them, the pia mater was injected, thickened, and infiltrated with serous fluid. MM. Mutinot and Parent, in their elaborate monograph on arachnitis, give the results of their examination of 116 cases, published with the expressed design of establishing the diagnosis and pathology of arachnitis. But, though these are classed as inflammations of a serous membrane, we find that, in a considerable number of them, the inflammation had extended to the cerebral substance, the vessels of the pia mater being at the same time injected, and its



## GEN. VII.

## SPEC. I.

Empresma,  
cephalitis.  
Inflammation  
of the brain.

Treated of too  
generally by  
Cullen.

they have hitherto escaped the attention of almost all our nosologists, even of those who have subdivided inflammation of the brain into the greatest number of distinct genera or species of disease; whilst Vogel expressly declares, that all the most acknowledged symptoms of inflammation of the brain are equivocal, not only as to a distinction of one morbid part from another, but as indicative of inflammation in any part; and Dr. Cullen asserts in a note subjoined to his *generic* definition (for he advances the disease to the rank of a genus, and a genus too without a species or a specific character), that there are no symptoms capable at all times of distinguishing, with certainty, inflammation of the brain from inflammation of its meninges. On which account, he deviates from the more complicated arrangements of Sauvages, Linnéus, and Sagar, and includes several of their genera in his own definition, which runs in more general terms as follows: "pyrexia severe; pain of the head; redness of the face and eyes; intolerance of light and sound; watchfulness; fierce delirium, or typhomania."

Expediency of  
the present  
subdivision;

There is so much correctness in this remark of Dr. Cullen's, notwithstanding the error of his arrangement, that the present author yielded to it in the first edition of his Nosology, and introduced cephalitis, not indeed as a naked genus without a specific character, but as a single species without enucleating its varieties; or, in other words, without treating of deep-seated inflammation, constituting acute internal dropsy of the brain, separately from inflammation of the head generally. It may, perhaps, be doubted, whether acute dropsy of the brain ought to be regarded as an idiopathic inflammation at all, and consequently whether the present is the proper place for it; but the reasons, which will immediately be advanced, will, I trust, settle this point completely. And as, upon a closer attention to the subject, notwithstanding Dr. Cullen's remark, I am induced to think, that there are cases in which parenchymatous or deep-seated inflammation may be distinguished from meningic, I have so far deviated from the first arrangement as to give these distinctions under the form of the above varieties.

though the  
distinctive  
marks cannot  
always be  
traced.

I admit, nevertheless, with Dr. Cullen, that there are no symptoms capable, *at all times*, of distinguishing, with certainty, inflammation of the substance of the brain from inflammation of its meninges; and only contend, that the distinction may be drawn in certain cases in which the disease is simple, and the characters strong and unmixed; and strikingly indicative of membranous or parenchymatous inflammation, according to the general rules just laid down upon this subject.\*

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substance thickened and covered with a serous or sero purulent effusion; so that, judging from the *post mortem* appearances, they were, in fact, mixed cases; and, in strictness, we must refer the symptoms, or physiological indications, presented during life, to the lesion of the cerebral substance, rather than to that of the meninges." Dr. Quain, in Cyclop. of Pract. Med, art. INFLAMMATION OF THE BRAIN. — ED.

\* According to Bayle, delirium and progressive paralysis are the invariable accompaniments of chronic meningitis. The delirium is at first partial; it is a monomania, with weakness of intellect; but, after a time, it passes on to maniacal excitement, and finally subsides into confirmed idiocy. The paralysis does not amount to a total privation of motion and sensation in any particular part; it is

It is possible, indeed, that meningic inflammation may occasionally be still more limited, and exist chiefly or altogether in one of the membranes alone, as the arachnoid; whence some pathologists have set down ARACHNITIS as a subvariety of the meningic form: but, as such minute derivations can never be supported by pathognomonic symptoms, nor lead to any practical utility, I cannot but prefer the example of Professor Frank, and, indeed, of most of the Italian pathologists, in rejecting them, to that of Pinel and other French writers\*, in introducing or retaining them.

[Dr. Abercrombie, who uses the term *meningitis*, to express inflammation of the arachnoid, or pia mater, or both, as distinct from inflammation of the dura mater, finds that it is not characterised by any uniformity of symptoms. In some cases, it comes on with headach, vomiting, fever, and impatience of light, but more commonly with a sudden and long-continued paroxysm of convulsions, sometimes preceded by headach and vomiting, sometimes without any warning. In some examples, the convulsion passes immediately into coma, which afterwards alternates only with a repetition of the convulsion, until death. In other cases there is a recovery from the first convulsion, and the patient appears to be doing well; but afterwards falls into coma, with or without a recurrence of the convulsion; while, in certain other instances, no convulsion occurs till a late period of the disease.

On the other hand, inflammation of the substance of the hemispheres is said to be attended with symptoms which also vary considerably, according to the extent of the disease, and the particular part of the brain which is the seat of it. In some cases, headach is followed by high delirium, and this by coma. In others, there is a sudden attack of convulsion. A frequent form of the disease is characterised by headach, followed by convulsion of one or more limbs: these afterwards becoming paralytic. The disease may be fatal in the inflammatory stage: that of ramollissement, simple or combined with partial suppuration; that of undefined suppuration; that of encysted abscess; or that of ulceration of the surface of the brain.†]

GEN. VII.  
SPEC. I.  
Empresina  
cephalitis.  
Inflammation  
of the brain.  
Arachnitis  
whata.

Diagnosis of  
uncombined  
meningitis.

Of inflamma-  
tion of the  
substance of  
the hemi-  
spheres.

at first, slight, but gradually increases, and extends to the whole muscular system, rendering the gait feeble and oscillating, and ultimately destroying the power of action. The diminution of sensation is not proportioned to that of motion. Periodic movements, with contraction and rigidity of the limbs, sooner or later return; and, finally, epileptic attacks, which terminate in fatal apoplexy. — Ebn.

Recherches sur l'Inflammation de l'Arachnoïde, &c. Par P. Duchatelet, M.D., &c. et L. Martinet, M.D. 8vo. Paris, 1821.

† See Abercrombie's *Pathol. Pract. Researches on Diseases of the Brain*, pp. 50, 70. This eminent pathologist candidly owns, "that our knowledge is not sufficiently matured to enable us to say with confidence what symptoms indicate inflammation of the substance of the brain, as distinguished from that of its membranes." Yet, as Dr. Quain has pointed out, there are circumstances in which we can indicate, with sufficient precision, the symptoms of cerebritis, as distinguished from any that can, in strictness, be referred to meningitis; for instance, when the inflammation is isolated, and does not reach the membranes, as when it is seated in the thalamus, or corpus striatum. But if the inflammation occur at the circumference of the organ, where the membranes and cerebral substance are in contact, and both are supplied by the same vessels, then, though the inflammation may at the outset be seated in the meninges, it will speedily extend, more or less, to the cerebral substance, and, by complicating the lesion, confuse the diagnosis. (Dr. Quain, in *Cyclop. of Pract. Med.*, art. INFLAMMATION OF

## GEN. VII.

## SPEC. I.

Empresma  
cephalitis.Inflammation  
of the brain.Distinctive  
marks disco-  
verable more  
frequently in  
meningie than  
in deep-seated  
cephalitis.Whence the  
first is uni-  
versally de-  
scribed :and given as  
a general  
character of  
the disease.Reasons for  
admitting the  
second variety.Absurdly  
regarded as  
belonging to  
dropsies.How far an  
apoplexy.

I believe, that a simple and unrestricted appearance of inflammation is more frequently to be traced in meningie, than in profound or parenchymatous cephalitis; or, in other words, that, in primary inflammation of the substance of the brain, the meninges are more disposed to partake of the affection either by continuous action or sympathy, than the substance of the brain is in primary inflammation of meninges. And hence, those nosologists that describe but a single species or *genus* of this disease, as it has been often though incorrectly denominated, like Vogel, Cullen, and Parr, lean chiefly to the meningic variety, and define it by characters of great vehemence or acuteness, so as in reality to limit themselves to this variety alone. Yet, as the symptoms do not always, nor even most frequently, mount up to this aggravation, in consequence of the disease more commonly originating, or being more commonly seated, in the substance of the brain itself than in its membranes, they have all been dissatisfied with their respective definitions; and, instead of enlarging or modifying their terms to meet the distinctive phenomena as they vary according to the seat of the disease, have endeavoured to apologise for their own inaccuracy, by representing these phenomena as irreducible and anomalous.

The first variety, therefore, exists in the judgment and even in the description of all writers, who, where they have not entered into more minute subdivisions, have given it as the general character of the complaint.

The existence of the second variety, or, in other words, the propriety of regarding what has hitherto been denominated acute or internal hydrocephalus as a variety of cephalitis, requires to be examined somewhat more at length.

The absurdity of the usual arrangement of internal hydrocephalus, and of contemplating it as belonging to the ordinary family of dropsies, with which it has scarcely a common symptom, has long been felt by pathologists, and is directly noticed both by Sauvages and Cullen. But the question is, if we remove it from its usual situation, where are we to place it? If we do not regard it as a dropsy, in what light are we to contemplate it at all? And how are we to regulate our treatment of it? The professor of Montpellier tells us that, according to its symptoms, it is to be ranked in the comatose, spasmodic, or some other tribe of diseases: distinctly importing that, in his own opinion, he could not refer it to any single division in his very extensive classification. Dr. Cullen's

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THE BRAIN.) It is an observation made by the same physician, that if we note the symptoms commonly ascribed to inflammation of the arachnoid membrane, we shall find that several of them must really depend upon a disturbance of the functions of the cerebro-spinal mass, and not of its investments; as, for instance, delirium, spasm, and rigidity of the muscles, convulsions, vomiting, stupor, coma, contraction or dilatation of the pupils, strabismus, &c. In the great majority of superficial inflammations, it appears to Dr. Quain, that there is a mixed lesion, and all that discrepancy, which their progress and symptoms present, is explicable, not merely by the extent and degree of the inflammation, or by peculiar idiosyncrasy, but by the fact that, in some of them, the inflammatory action is, for the most part, expended on the membranes; that, in others, the reverse obtains; whilst, in a third group, it seems as if concentrated on the vessels of the pia mater, the arachnoid on the one hand, and the brain on the other, being but slightly affected. — Ed.



reply is, that it is an evident and idiopathic species of *apoplexia*, and ought to take its place under that genus; and he has hence distinguished it by the appellation *apoplexia hydrocephalica*, and in his manner assigned it "a local habitation and a name." In reference to this assignment he observes, however, that, in a nosological work, it is difficult to collate exactly diseases that in their progress assume a changeable form, and hence to allot a perfectly fitting place to hydrocephalic apoplexy. "Yet I prefer," says he, "placing this disease under the head of apoplexy to placing it under that of hydrocephalus (dropsy of the head); first, as it differs extremely from the symptoms of sensible (external) dropsy of the head; and next, as in its proximate cause, and at length in its symptoms, it bears to apoplexy as near a relation as possible."

Dr. Cullen evidently regarded the effusion or dropsy in the entricles of the brain as a mere effect of the disease, rather than as the disease itself; yet the drowsiness, or heavy sleep, or whatever else there is akin to apoplexy, and which he contemplated as the proximate cause of the disease, and consequently as the disease itself, is a still more remote effect than even the effusion, for it is probably the mere result of such effusion. In truth, it is only necessary to run over Dr. Cullen's specific definition of this disease to see how very little it has in common with apoplexy. This definition is as follows:—"Apoplexy arising gradually; affecting infants, and the age below puberty, *first* with insititude, feverishness (*fibrilulâ*), and pain of the head; *afterwards* with a slower pulse, dilatation of the pupil, and somnolency." The definition includes two stages of disease, if not two distinct diseases, a primary and secondary: and it is only in the second stage or secondary disease, the mere result of the first, that it bears any analogy to apoplexy.

The first and leading symptoms are evidently those of pyrexia, which is, therefore, the fundamental part of the disease; and had not Dr. Cullen been in some degree influenced by system, he would probably have coloured these symptoms a little more highly, as he might have done without any departure from the truth. And hence, while Dr. Parr, Dr. Young, and a few others, have adhered to Dr. Cullen's view of the subject, the great body of pathologists have been dissatisfied with it, and have correctly carried internal hydrocephalus over to the class of pyrexias, and regarded it as a fever or an inflammation. Thus, in Dr. Macbride's table, it occurs as a nervous fever, under the title of *febris continua, nervosa, hydrocephalica*: and more simply under that of *febris hydrocephalica*, in Professor Daniel's edition of Sauvages; whilst Dr. Quin of Dublin, Dr. Withering, Dr. Rush, Dr. Golis, Professor Martini, and a host of other writers of authority, have contemplated and treated it as an inflammation—an inflammation of the brain—and consequently a cephalitis, in the language of Dr. Boindet, *Céphalite interne hydrocéphalique*\*; in that of Dr. Golis *Wasserschlag*†, or water-stroke, from its violence; the fever being regarded as a mild and somewhat irregular cauma, and the effusion

GEN. VII.  
SPEC. I.  
Empresma  
cephalitis.  
Inflammation  
of the brain.

Mistake of the  
effect for the  
cause.

First and lead-  
ing symptoms  
pyretic.

By whom re-  
garded as an  
inflammation.

\* Mémoire sur l'Hydrocéphale, ou Céphalite Interne Hydrocéphalique, par F. Boindet, M. D., Médecin en chef des Hôpitaux de Genève. Geneva, 1818.

† Praktische Abhandlungen über die vorzüglichsten Krankheiten des kindlichen Alters, band, i. Wien, 1815.

## GEN. VII.

## SPEC. I.

Empresma

cephalitis.

Inflammation  
of the brain.The inflamma-  
tory fever not  
always acute  
and rapid :

into the ventricles of the brain as a mere effect of the inflammation.

This is not the only instance, indeed, in which cauma assumes a mild character. In various other species of empresma, it is often found to do the same, of which the reader will find an interesting example under the species laryngitis, a few pages further on: and of which every practitioner is meeting with daily instances in pneumonitis, and especially in inflammation of the parenchyma of the lungs producing suppuration. The general organ of the brain, however, seems to have less irritability than almost every other organ when in a state of health, and we often find it to be little irritable in a state of lesion; since nothing is more common than for a bullet, or the broken point of a knife, sword, or other weapon, to be forcibly driven into it, and buried there for weeks, months, or years \*, in one instance eleven years †, not only without danger, but sometimes with little inconvenience.

Dr. Porter's  
view.

In the third number of the Medico-Chirurgical Journal there is an excellent paper upon the subject before us, by Dr. Porter of Bristol, which commences with a very correct pathological view of the disease, minutely coinciding with the present arrangement, and confirming this view by a variety of strongly marked and well selected cases. And I am glad to avail myself of Dr. Porter's authority in following up this second variety of cephalitis into a distinct and extended illustration.

Acute hydro-  
cephalus effect  
of inflamma-  
tion.

[The view, adopted by the foregoing authorities and by Dr. Good, receives important corroboration from the statements of that distinguished pathologist, Dr. Abercrombie, who has observed ‡, that, in the earlier investigations of this class of diseases, too much importance was perhaps attached to the effusion, as if it alone constituted the disease called acute hydrocephalus. The symptoms were ascribed to the compressing influence of the effused fluid, and the practice was directed chiefly or entirely to the promotion of its absorption. It is now, says Dr. Abercrombie, very generally admitted, that the effusion in acute hydrocephalus is to be considered as one of the terminations of inflammatory action within the head, though there are certainly other causes from which the serous effusion may arise. Dr. Mills proposes to call the acute species, arising from inflammatory action, *hydro-cephalitis*.]

Proofs derived  
from dis-  
section.

In a few words, both varieties not only evince symptoms of inflammation during the progress of the disease, but anatomical proofs of the same upon dissection after the disease has terminated fatally; in the meningeal subdivision, the complaint commencing in and being ordinarily confined to the meninges or membranes of the brain, the blood-vessels chiefly affected with inflammatory action being the meningeal branches of the external carotid; and, in the deep-seated subdivision, the complaint commencing in and being ordinarily confined to the posterior part of the brain, the blood-vessels chiefly affected being minute branches of the basilar artery. It is nevertheless possible, and appears often to become a fact, from the anastomoses that are occasionally found between dif-

\* Gooch's Cases. Hoegg, Diss. Observ. Medico-Chir. Jen. 1762.

† Majanet, Journ. de Med., tom. xli. p. 65. Id., tom. xx. p. 553.

‡ On Diseases of the Brain, p. 19. Also Dr. Mills, in Trans. of Assoc. of King's and Queen's Coll. of Physicians, vol. v. p. 553.

ferent arteries of the brain, from the continuous spread of morbid action from neighbouring sympathy, or from some unknown cause, that either variety may pass still deeper or wider into the substance of the brain, and make an approach towards the other; and hence the mixed, anomalous, and even contradictory symptoms, by which the specific character is sometimes distinguished\*: a striking example of which, but too long to be quoted, is to be found in the Edinburgh Medical Commentaries.†

"In three cases," says Dr. Sagar, "I have found suppuration of the brain after death; in each of which the patient during the progress of the disease breathed sonorously, but without stertor."‡ Whether, in the case of effusion between the membranes, the fluid be confined, where the disease commences in the meninges, to the space between the dura mater and the arachnoid tunic, and where it commences in a contiguous part of the brain, to that between the arachnoid tunic and the pia mater, as asserted by Dr. Porter, I have not been able to determine.

We may hence explain why the symptoms of irritation and oppression should so much vary, as we find they do, in different cases; why there is sometimes no delirium, and at other times a considerable degree; why the delirium is sometimes furious and impetuous, constituting the *delirium ferox* of medical writers; why, in other instances, it is mute or muttering, designated by the phrase *delirium mite*; why there should occasionally be examples of that comatose or heavy stupor to which the Greeks gave the name of typhomania; and why the pain and pyretic symptoms should vary from great acuteness to a mere disquieting headache and slight increased action: as also why, in a few cases, there should not only be found suppuration, but examples of that mollification, or softening of the brain, the *Ramollissement de cerveau* of M. Rouchoux § and other French writers, which is more frequently traced in apoplectic subjects, and of which we shall have to treat when discussing the disease of apoplexy.

Except in a few cases, in which it is brought on by the abuse of strong liquors, and, in warm climates, by exposure to the intense heat of the sun, FURENSY is not often found as an idiopathic complaint, though it is a frequent attendant upon other diseases, as synochus, worms, various exanthems, trichoma, hydrophobia, injuries of the brain, and severe grief. [The diagnosis of inflammatory affection of the brain, as laid down by Dr. Abercrombie, seems faithful and correct. His account, however, refers to inflammation of the brain, in its several modifications and consequences, and not merely to acute cephalitis. In the head: violent headache, with throbbing and giddiness, sense of weight and fulness, stupor, a great propensity to sleep. In many obscure and insidious cases, a constant feeling of giddiness is the only remarkable symptom. In the eye: impatience of light, unusual contraction or dilatation of the pupil, double vision, squinting, blindness, distortion of the eyes outwards, paralysis of the muscles of the eyelids, objects seen that do not exist, long-sightedness suddenly changed into

GEN. VII.

SPEC. I.

Empresma  
cephalitis.  
Inflammation  
of the brain.

Hence various  
anomalies ex-  
plained.

Ramollisse-  
ment de cer-  
veau.

\* E. Cephalitis  
meningica.

Diagnosics.

\* J. P. Frank, De Cur. Hom. Morb. Epit., tom. ii. p. 18. Manh. 8vo. 1792.

† Vol. ix. p. 164.

‡ Syst. Morb. Sympt., Cl. xi. Ord. iii. Gen. xii.

§ Dictionnaire de Médecine, tom. ii. Paris, 1822.

¶ Abercrombie on Diseases of the Brain, p. 6.



GEN. VII.  
SPEC. I.  
α E. Cephalitis  
meningica.  
Inflammation  
of the brain.

Abererombie  
on the dia-  
gnosis.

ordinary vision. In the ear: transient attacks of deafness, great noise in the ears, or unusual acuteness of hearing. In the speech: indistinct or difficult articulation, unusual quickness or slowness of speech. In the pulse: slowness and remarkable variations in frequency. In the mind: high delirium, transient fits of incoherence, peculiar confusion of thought, and forgetfulness on particular topics. In the muscles: paralytic and convulsive affections. In the urine: frequently a remarkable diminution of the secretion, often joined with a frequent desire to void it.\*

In this important diagnosis, as Dr. Abererombie justly remarks, minute attention to the correspondence of the symptoms is of more consequence than any particular symptom. Thus, the peculiar oppression, which accompanies a high degree of fever, is not an unfavourable symptom; but the same degree of oppression occurring without fever, or with a very slight fever, would denote a head affection of much danger. A degree of headache and delirium, accompanying a high fever, would only be symptomatic; but accompanying slight fever, would indicate a dangerous affection of the brain.†] Cephalitis sometimes makes a near approach to mania; but is easily distinguished by the nature of the exciting cause, where this can be ascertained, the abruptness of the attack, and the violence of the fever; added to which there is in phrensy, for the most part, though not always, a hurry and confusion of the mental powers, a weakness and unsteadiness of mind, which is rarely or perhaps never to be met with in genuine mania. It sometimes, however, runs into mania, of which Stoll has given a singular instance in a chronic case that continued for nine weeks before it assumed this change.‡

[From circumstances noticed by Dr. Abererombie, it appears probable, that, in this form of the disease, the inflammation is primarily seated in the membranes of the brain. Another affection of frequent occurrence, referred by Dr. Abererombie to this head, is characterised by a peculiar aberration of mind, without any complaint of pain. There is a remarkable restlessness, quickness, and impatience of manner, obstinate watchfulness, and incessant rapid talking, the patient rambling from one subject to another, but often without any actual hallucination; he knows persons about him, and answers distinctly questions put to him. The pulse is rapid, but other symptoms of fever are absent. The disease is sometimes mistaken for mania, and set down as not dangerous, though often rapidly fatal. On dissection the chief appearance is a highly vascular state of the pia mater, without any actual result of inflammation.

\* The undisturbed state of respiration, in the great majority of cases of simple cerebral inflammation, seems to admit of explanation by Sir Charles Bell's discoveries respecting the origin and functions of the respiratory system of nerves. Large portions of the brain may be destroyed, and extensive regions of the body deprived of sense and motion; but, as long as that portion of the medulla, which gives origin to the nerves of respiration, continues free from irritation and inflammation, the functions of respiration and circulation proceed without interruption. When, however, the general inflammation or irritation extends to the medulla, as happens in the paroxysms of convulsions, which sometimes occur in cerebritis, the respiration then becomes extremely hurried. See Dr. Crawford's Obs. in *Cyclop. of Pract. Med.*, art. INFLAMMATION OF THE BRAIN. — Ed.

† Abererombie, op. cit., p. 17.

‡ *Rat. Med.*, sect. iii. p. 179.

A second modification of inflammation of the brain, particularly described by Dr. Abercrombie, is that which comes on with a sudden attack of convulsion, followed by palsy, and putting on the appearance rather of an apoplectic, than of an inflammatory affection. It is generally connected with inflammation of a portion of the cerebral substance, but may also occur in combination with inflammation of the membranes. This modification may also take place in a more chronic manner, in which it continues for months. In such cases it is generally distinguished by headache, often confined to one side of the head; loss of memory; affections of various organs, as the eye, the ear, or the tongue; convulsive affections; palsy of one limb or one side of the body; terminating in coma and death. On dissection, *ramollissement* or supuration of a part of the brain is generally met with; but sometimes the part is of a dark colour, and rather firmer, than the surrounding parts.\*

A third modification, noticed by the same physician, most commonly affects children, but sometimes adults. It is usually preceded for a day or two by languor and peevishness, which are followed by fever, sometimes ushered in by severe shivering. The patient complains of acute pains in some part of the head, with flushing of the face, and impatience of light. In many cases, there is frequent vomiting. The pain frequently extends along the neck, and is sometimes complained of in the arms and other parts of the body. The pupil is usually contracted; the eye is morbidly sensible, and sometimes suffused; the tongue generally white; the sleep is disturbed by starting and frightful dreams; the bowels are mostly confined; but frequently they are natural, and sometimes loose. After some days, slight delirium begins, or a peculiar forgetfulness shows itself, the patient using one word instead of another, misnaming persons and things, &c. These symptoms are followed by a tendency to sleep, soon changing to coma. While these symptoms are going on, the pulse, which was at first frequent, usually falls to the natural standard, or below it; the pain becomes less violent; the eye loses its acute sensibility, becoming dull and vacant, often with squinting and double vision; and these are often succeeded by dilated pupil and blindness, even before the patient falls into coma. The pulse having continued low for a day or two, sometimes only for a few hours, begins to rise again, and attains extreme frequency, and occasionally that of two hundred in a minute. Through the whole course of the disease, according to Dr. Abercrombie, it is extremely unequal in frequency, varying perhaps every minute, and every time it is counted. This remarkable inequality, he says, is not observed in other diseases, except from some temporary cause; and is, in all affections of the head, a symptom deserving much attention. The patient is now perfectly comatose, sometimes with paralysis, sometimes with convulsions; and, after a few days more, the disease proves fatal. The falling of the pulse, while the child continues in a state approaching to coma, is often the first symptom indicating the alarming nature of the disease.

A fourth form of the disease, depicted by Dr. Abercrombie, proceeds with slight headache and febrile disorder, with remis-

GEN. VII.

SEC. I.

α E. Cephalitis  
meningica.  
Inflammation  
of the brain.

Modifications  
of cephalitis  
described by  
Abercrombie.

Modifications  
described by  
Abercrombie.

\* Op. cit., pp. 7. and 17.

GEN. VII.  
SPEC. I  
a E. Cephalitis  
meningica.  
Inflammation  
of the brain.

sions and aggravations for several days, ere the case assumes any decided character. The headache, though not severe, is now remarked to be greater than is correspondent to the fever; and while the pulse falls, and the appetite improves, the headache continues. After a few more days, the pulse sinks even to the natural standard, while the headache is increased, with an evident tendency to stupor. This instantly marks a head affection of the most dangerous character, and the patient now lies for several days, in a state of considerable stupor, sometimes with convulsions, often with squinting and double vision. The pulse then begins to rise again; some amendment seems to take place; but a relapse into perfect coma soon follows, and death takes place in three or four days.

A fifth variety, pointed out by the same practical writers, begins with violent headache, but without fever. The pulse is about the natural standard, or even as low as 60. In some cases, the face is flushed; in others, rather pale. The eye may be natural, or it may be impatient of light, with contracted pupil. There is a look of much oppression, and sometimes there is vomiting. Delirium frequently appears at an early period, and in five or six days passes into fatal coma, the pulse having continued from 70 to 80 through the whole course of the disease. In other cases, the pulse is at first above the natural standard, afterwards falls to 60 or 50; and at last rises to 120 or 130. In some cases, vision is not affected; in others, squinting and double vision occur; and sometimes these symptoms, after lasting a day or two, cease, yet the disease goes on to its fatal termination. In every case, there is more or less delirium, though often slight and transient; and frequently the patient lies in a dozing state, and talks incoherently, but is capable of being roused so as to converse sensibly. This condition, says Dr. Abercrombie, when not accompanied by fever, is always characteristic of a dangerous affection of the brain.\*]

Remote causes.

The remote causes of cephalitis are those of inflammation in general applied to the organ affected; such as sudden exposure to cold after great heat; cold liquors incautiously drunk in the same state; inebriation, and especially from spirits; exposure of the naked head to the rays of a vertical sun; violent passions of the mind; obstructed menstruation; accidental injuries; suppressed eruptions of various kinds †; and several kinds of poison.

Sometimes  
assumes a  
chronic  
character.

From some of these causes, the inflammation assumes a chronic character; is slow in its progress, and obscure in its symptoms. The symptoms, moreover, however connected with a morbid consent in other organs, generally point to the brain as the seat of lesion; and consist of cerebral compression or acute pain in the head, irregularity in the pulse, and some kind of paralysis. M. Lallemand, who has industriously collected a multitude of anomalous cases of this kind, observes, that where the inflammation runs into suppuration, an effort is usually made by nature to form a sac or barrier for its limitation; but that even this effort is often in vain, and still adds to the fatal issue, as the new membrane fre-

\* See Abercrombie's *Pathological and Practical Researches on Diseases of the Brain*, p. 6—13.

† Frank, *ut supra*, tom ii. p. 51.



mently becomes thickened, and creates a fresh source of irritation.\*

[According to the valuable researches of Dr. Abercrombie, the disease may be fatal: 1st, in the inflammatory stage; 2dly, from rous effusion; 3dly, from deposition of false membrane; 4thly, from suppuration; 5thly, from peculiar disorganisation, or softening the brain, or its conversion into a soft pulpy mass, retaining its natural colour, and without the appearance or smell of pus — the *ramollissement* of French writers; 6thly, the terminations in the chronic form are, thickening of the membranes, contraction and obliteration of the sinuses, caries of the bones, &c.]

The cure of phrensy must be attempted in the same manner as that of inflammation in general, or rather as the cure of inflammation by resolution; for resolution is the only means by which a cure can be effected in this case. Copious and repeated bleedings must here therefore hold the first place; and the nearer the blood is drawn from the affected organ, the better chance it gives us of success. The temporal arteries and the jugular veins have hence been recommended as the most effectual vessels to open; but for various reasons it is better to begin with drawing blood liberally from the arm, and afterwards by a free application of leeches to the temples. The head should be shaven as soon as possible, and kept moist with napkins wrapped round it dipped in cold vinegar, or equal parts of water and the neutralised solution of ammonia; or, which is still better, with ice-water: all which is preferable to blistering, which is too apt to increase the morbid excitement, and the practice has the authority of Hippocrates, who was in the habit of applying cold epithems, not only in inflammation of the brain, but even of the abdominal viscera.† The effect of blistering in the early stages is looked upon by Dr. Abercrombie as rather ambiguous. When it is employed, he recommends it to be on the back of the head and neck, where it will not interfere with the more powerful remedy, the application of cold. After the first violence of the disease has been subdued, however, he approves of successive blisters to various parts of the head, and upper part of the neck.‡ The bowels should be thoroughly evacuated, and even stimulated, at first by calomel alone, or mixed with jalap, and afterwards kept open by cooling saline aperients; nitre should be given in moderate quantities, repeated as frequently as the stomach will bear; and it is often considerably assisted by the tincture or infusion of digitalis. The chamber should be cool and dry; and no more light be admitted than the eyes can endure without inconvenience.

[In cases, which assume a more chronic character, Dr. Abercrombie § represents the abstraction of blood as having less control over them. In all forms of the disease, he says, active purging is the remedy, from which we find the most satisfactory results; and though bleeding is never to be neglected in the earlier stages of

GEN. VII.

SPEC. I.

α E. Cephalitis meningica.

Remedial treatment.

Cold epithems.

Blisters.

Purgatives.

\* Recherches Anatomico-Pathologiques sur l'Encéphale et ses Dépendances. tre quatrième. 8vo. Paris, 1823.

† Hæp. Νοσῶν, p. 484.

‡ See Abercrombie's Pathol. and Practical Researches on Diseases of the Brain, p. 156.

§ Pathol. and Pract. Researches on Diseases of the Brain, p. 157.

## GEN. VII.

## SPEC. I.

α E. Cephalitis meningica.

Croton oil.

Sometimes but little disturbance of the intellect.

the disease, his experience is, that more recoveries from head affections of the most alarming aspect take place under the use of very strong purging, than under any other mode of treatment. He deems croton oil the most convenient medicine for the purpose.]

I have said that furious delirium, though generally laid down as a pathognomonic of this variety of cephalitis, does not always occur; and in a very strongly marked case in which I was consulted several years ago, the mental powers were not much interfered with.

β E. Cephalitis profunda.

Internal, or acute dropsy of the head.

PROFOUND OR DEEP-SEATED CEPHALITIS, or, as it is more commonly called, ACUTE OR INTERNAL HYDROCEPHALUS, so far as examinations after death may be depended upon, is almost always accompanied with effusion into the ventricles of the brain; on which account indeed the name of HYDROCEPHALUS has been applied to it, though most incorrectly; for I cannot but agree with Dr. Porter, that it has no other symptom in common with chronic or idiopathic HYDROPS CEREBRI, and that such a generalisation has been a cause not only of much confusion in nosology, but of much mischief in practice: and hence Dr. Coindet proposes, while he retains HYDROCEPHALUS for the latter, as already observed, to distinguish the former by the name of HYDRENCEPHALUS.

Sometimes found in adults, but mostly in infants.

This disease is sometimes found in adults, but mostly in young subjects, and chiefly from early infancy to seven years of age, particularly in those of a fair complexion. After seven years, the disease is comparatively rare.

[Dr. Mills has recorded the cases and dissections of twenty patients, who fell victims to acute hydrocephalus. Of these, twelve died before they attained the age of six; seven between their sixth and eighth year; and one at the age of twelve.]\*

Diagnostics.

The symptoms commence obscurely, and are those of irritation produced by worms: as irregularity, and especially costiveness in the bowels; listlessness; impatience; knitting the brows into a frown; heaviness of the head, which organ the patient is always desirous of reposing in a chair or some other place; irregular fever; and, occasionally, violent and deep-seated pain in the sensory shooting from temple to temple, or across the forehead; frequently accompanied with sickness. Sprightliness, vivacity, and good-temper sink into dulness; the brightness of the eye becomes dim, and the colour of the cheek vanishes, the child walks unfirmly, as though stepping over a threshold, and often staggers as if drunk.† The pulse is irregularly quick; the sleep unquiet, and interrupted by screams; and the eye has a look peculiarly oblique or squinting. These three last symptoms are usually regarded as pathognomonic. The eye, however, instead of taking an oblique direction, is sometimes turned upwards: but either change is the result of spasmodic action; the pupil is often at first contracted, but at length unalterably dilated.‡ The pyretic symptoms appear chiefly in the evening; but sometimes at other periods; for, in this respect, there is a strange and unaccountable anomaly; and as the disease advances, they increase. The head is hot to the hand though without

\* Trans. of the King's and Queen's College of Physicians, vol. v. p. 434. Dubl. 1828.

† Gölis, ut suprâ.

‡ Cheyne, Essay on Hydrocephalus.

ny flush; a severe pain is felt in the forehead, sometimes shooting back to the nape of the neck, or alternating with pains in the limbs, or with colicky gripings, and the stimulus of light becomes highly painful. Shortly after which, many of the symptoms are apt to assume deceitfully for a few hours, perhaps a day or two, a milder character; but the pulse evinces less power, the limbs become maciated, stupor supervenes, occasional convulsions, more or less general, follow, and death very speedily closes the scene.

So imposing is the apparent improvement at times, that Dr. Fölis candidly tells us, in two instances he dropped his unfavourable prognosis, and thought the little patients on the point of recovery. But a relapse after thirty-six hours in the one, and forty-eight hours in the other, took place, and was speedily followed by death.\*

I have thus given a brief sketch of the symptoms, that principally mark the progress of this disease in all their versatility; and it is his versatility that has produced the chief differences of opinion concerning it.

The first symptoms are unquestionably rather those of irritation, than of compression, as is obvious from their resemblance to those of invagination. The venous system in children, indeed, and especially the veins of the head, are not disposed to plethora, which is rather a characteristic feature of advanced years; nor does the small quantity of water, which is often found in the ventricles, seem adequate to the violence of the effect; and we have hence very strong grounds for supposing, that the collection of water is only a secondary disease, dependent upon some previous idiopathic affection in some part of the brain; and that affection, as Dr. Rush has long ago very ably shown, an inflammation. It has indeed been observed, in opposition to this opinion, that acute hydrocephalus is less frequently to be met with in strong and vigorous, than in weak and sickly children, dropsy being here, as in other species, far more commonly an effect of debility; whilst it is in strong and vigorous children alone that we have reason to expect inflammatory action in the brain, as in any other organ. Bleeding, it is admitted, has been serviceable at times; but we are told, that it has often been unproductive of any benefit whatever; and that it is possible to account for its occasional utility by other means than its taking off inflammatory action, as by simple removal or diminution of venous congestion. Yet we have already observed, that venous congestion is not commonly a disease of infancy, but of later life; that the first symptoms are those of irritation; that post-obit examinations have very generally shown an inflamed state of the arteries; and that the fluid accumulated is not sufficient in many instances of itself to account for the symptoms, by which the disease is characterised.

[Many facts on record exhibit a large quantity of fluid in the brain, without any alarming symptom having resulted from it. Morgagni found eight ounces in a man, who died suddenly of suffocation in an advanced stage of pneumonia; and Dr. Heberden found the same quantity in a man who sunk rapidly, after having been weakened by a febrile attack, without any symptom of an affection of

GEN. VII.  
SPEC. I.  
β E. Cephalitis profunda.

Deceptive appearance of improvement.

The first symptoms inflammatory,

and those of oppression only secondary.

Examination of the opposite opinion.

\* Praktische Abhandlungen, &c. ut suprâ.



GEN. VII.  
SPEC. I.  
β E. Cephalitis  
profunda.

Prominent  
symptoms not  
the result of  
effusion.

Singular  
irregularity of  
the pulse.

Symptoms in  
first stage.

Second stage.

No symptoms a  
certain in-  
dication of  
effusion.

Duration of  
the disease.

the brain. It is, therefore, as Dr. Abercrombie justly remarks, not the mere presence of a certain quantity of fluid in the brain, that gives rise to the symptoms of hydrocephalus; all of which, on the other hand, have been known to occur, and terminate fatally, without any effusion. The conclusion, deduced from these facts by Dr. Abercrombie, is, that the prominent symptoms in these cases are not the result of effusion, but of that disease of the brain, of which the effusion is one of the terminations.] \*

In the progress of the complaint, there is often a very singular irregularity in the quickness of the pulse, which seems to be always varying and untrue to itself; insomuch that, if we count it several times in succession, we may chance to find it now eighty strokes, now a hundred, now a hundred and twenty or thirty strokes, and, immediately afterwards, not more than eighty or ninety in a minute.

[Some physicians are much more confident than others of being always able to detect the existence of the disease. The most characteristic symptoms of its first stage, as pointed out by Dr. Mills, are, a peculiar expression of countenance, indicative of oppression, pain, and despondency; frequent sighing; a disposition to retirement; a heat, weight, pain, or heaviness of the head, or all these combined; intolerance of light; waywardness and fretfulness; a low irregular fever; frequent nausea or retching; an irregular state of the appetite and bowels; and the continuance of the disease, notwithstanding the employment of aperient medicines.

The diagnosis of the second stage Dr. Mills considers less difficult. The heavy sigh, the deep moan, the wild scream, the preternatural dilatation or contraction of the pupils, imperfect or lost vision, delirium, difficult deglutition, paralysis of one hand, arm, or leg, of the eyelids, and of the sphincters; the head and neck permanently bent back; a slow intermitting, or a rapid, pulse; frequent vomiting and convulsions, are symptoms which Dr. Mills represents as characteristic of the stage of effusion.†

On the other hand, Dr. Abercrombie does not recognise any certainty in the diagnosis, and has published various facts which tend to prove that none of the symptoms can be depended upon as a certain indication of effusion. Slowness of the pulse followed by frequency, squinting, double vision, dilated pupil, paralytic symptoms, and perfect coma, he says, have been noticed without any effusion. He further shows that all these symptoms may exist in connection with a state of the brain which is simply inflammatory.] ‡

The duration of the disease is equally uncertain; commonly, perhaps, it runs on from three to six weeks, before it proves fatal; but it will sometimes destroy life in a fortnight, or even a week. Dr. Coindet has occasionally known the patient sink in two or three days.§ [According to Dr. Mills, acute hydrocephalus, which is the most frequent, commonly lasts from seven to twenty-eight

\* See Abercrombie's *Pathological and Practical Remarks on Diseases of the Brain*, p. 147.

† *Trans. of Association, &c. of King's and Queen's College of Physicians*, vol. v. p. 447.

‡ *On Diseases of the Brain*, p. 148.

§ *Mémoire sur l'Hydrocéphale, &c. ut suprâ*. Geneva, 1818.

days; chronic, from one to six months; though occasionally protracted to one, two, three, or even sixteen years.\*

According to Dr. Abercrombie's researches†, the seat of effusion varies in different cases. It is found in the ventricles, under the arachnoid, betwixt the arachnoid and dura mater; and there is every reason to believe that it also takes place betwixt the dura mater and the bone, though the fluid effused in this situation escapes when the head is opened. It is occasionally met with in the cavity between the layers of the septum lucidum. Cases are recorded in which the effusion was confined to one of the lateral ventricles; a state which Dr. Abercrombie has never seen, and which must have depended upon an obliteration of the communication between the two ventricles. Nosologists divide hydrocephalus into internal and external, according as the fluid is contained in the ventricles or between the brain and its membranes. This distinction is generally adopted: its correctness, however, is doubted by Dr. Duncan, jun. In many cases of chronic internal hydrocephalus, the ventricles, he observes, are so much distended, and the parietes so much thinned, that the head becomes translucent as a hydrocele, and the hemispheres form a mere membranous bag, which is generally ruptured in opening the head. The water is then supposed to lie in direct contact with the membranes, and between them and the brain; the remaining parts of the basis of which are supposed to be the whole brain compressed by the water external to it, while the thinned upper portions of the hemispheres are altogether overlooked, or supposed to be an exudation of coagulable lymph.‡ That such mistakes may have happened seems, indeed, highly probable, though authorities are so numerous and weighty in support of the reality of external hydrocephalus, that its existence can hardly be disputed.]

We have already observed that the substance of the brain has more generally evinced proofs of inflammation and other mischief than the membranes; though not unfrequently the increased vascularity and turgescence have extended from the parenchyma to the surface. As the existence of effused fluid is not necessary to the disease, it varies considerably in quantity when it is found from a few drachms to eight or ten ounces or more; as a mean measure, however, it may be stated at five or six ounces. Most modern pathologists concur with Malpighi and Haller in holding that it is incoagulable; but Pechlin, Lapeyronie, and a few authorities of the present day, have denied this. [Dr. Abercrombie describes it as sometimes limpid, sometimes bloody, and sometimes turbid, containing shreds of flaky matter. In certain cases, it is seen in the ventricles, exhibiting all the sensible qualities of pus. Generally, however, it seems to contain but a very small proportion of animal matter; and, in Dr. Marcet's experiments, a thousand grains yielded less than two grains of animal matter. In other cases, however, it is coagulable.] The disease is often connected with a scrofulous habit, and has sometimes formed a fatal metastasis to phthisis. [From the investigations of Dr. Mills, it appears that the disease often attacks the healthy children of healthy parents,

GEN. VII.

SPEC. I.

Æ B. Cephalitis profunda.

Seat of the effusion.

Reality of external dropsy of the head doubted.

Amount of fluid effused.

Quality of the fluid.

Sometimes connected with a scrofulous habit.

\* Trans. of Assoc. of King's and Queen's College, &c. vol. v. p. 43.

† On the Disease of the Brain, p. 21.

‡ Edin. Med. Clin. Trans., vol. i. p. 221.

GEN. VII.  
SPEC. I.  
Æ. Cephalitis  
profunda.

but occurs more frequently in the puny or scrofulous, or in children whose parents are scrofulous, debilitated, or worn out by intemperance. There were appearances of scrofula in twenty-two of the patients examined by him. In two, the brain was scrofulous; in three, the lungs; in four, the liver; in eight, the mesenteric glands; in four, the spleen; and, in five, the cervical glands. Of the patients who recovered, six had no visible marks of scrofula, and the parents of twenty-six seemed also free from it.]\*

Therapia.

The mode of practice, in consequence of the above discrepancy of opinion, has been extremely undecided: whilst many practitioners are so despondent as to fear that every plan is equally unavailing. It has fallen to the author's lot, however, to see several patients recover, both in infancy and verging towards adult age, who had all the characteristics of the disease, and were unquestionably labouring under it.

Prognosis.

[This is a point on which the sentiments of Dr. Abercrombie differ from those of the author of the present work. The former admits that many cases have recovered which exhibited all the usual symptoms of hydrocephalus. Yet, if certain principles which he has endeavoured to establish be correct, and which have been already noticed in the foregoing pages, there is no certain test of effusion in the brain; and all the symptoms usually attending it exist in connection with an inflammatory condition of the brain; which, if allowed to go on, would probably lead to effusion, but which, if treated with decision in its early stage, may be treated with success. Whether the fluid can be absorbed, or the disease cured after effusion, must remain a conjecture; but, from the facts that Dr. Abercrombie has adduced, he inclines to the belief that, in ordinary cases, the removal of the fluid, if it were to take place, would be no improvement of the patient, because there would still remain the deep-seated disease of the central parts of the brain which accompanies the effusion in a large proportion of cases, and which, we have seen, may be fatal, without any effusion, yet with all the usual symptoms of hydrocephalus. It is a valuable observation, made by Dr. Abercrombie†, that the ground of prognosis in particular cases depends, perhaps, in a great measure, upon the activity of the symptoms. The more they approach the character of active inflammation, the greater the prospect of cutting them short; and, the more they partake of the characters of low scrofulous inflammation, the less it will be. In every instance, the period for active practice is short, the irremediable mischief being probably done at an early period of the disease.]

Treatment  
generally ac-  
cordant with  
that for the  
preceding  
variety.

Contemplating it as a variety of cephalitis, the author has uniformly pursued the general plan recommended under the preceding variety, and to this practice he can only ascribe whatever degree of success he has been fortunate enough to meet with.

Blood should be drawn freely from the nape of the neck by cupping or leeches: the head should be shaven, and napkins dipped in ice-water, or vinegar and water, be applied to the posterior part of it, and be changed every hour or half hour. The bowels should be

\* Trans. of Assoc. of King's and Queen's Coll. of Physicians, vol. v. p. 434.

† On Diseases of the Brain, p. 149.



freely\* purged with calomel, or calomel and jalap\*: and the jalap should be toasted to render it less disposed to excite sickness: an easy diapnoë should, if possible, be excited and maintained on the skin; the chamber should be large and well ventilated: and whenever it may be right to stimulate the head, epithems of neutralised ammonia should be preferred to blistering. The value of digitalis is doubtful; when used early it has seemed serviceable, but it should be avoided in the second stage of the disease; unless, indeed, it be employed as, by Dr. Gölis, to smooth the passage to death, by diminishing the violence of the convulsions that usually precede it. In later life than infancy, where it has been necessary to draw blood repeatedly, I have occasionally prescribed opening the temporal artery with great success: for a small quantity, as six or eight ounces, of blood, drawn in this way, will often answer the purpose of double or treble the quantity abstracted from the arm. In a young lady of nineteen, labouring under very prominent symptoms of this disease, I found the violent and deep-seated pain in the head cease instantly; and the pulse sink from seventy to forty-four, as soon as only a tea-cupful of blood had been taken away in this manner.

Mercury employed both externally and internally, in a quantity sufficient to excite a ptyalism, has also been used in many instances with great success, both among adults and infants, but particularly among the latter. Dr. Percival gives the history of a child of his own, aged three years and a quarter, in which a perfect cure was obtained by this and nothing else. In forty-eight hours signs of amendment appeared, and in six days the child was well; during which time thirteen grains of calomel had been taken, and seven scruples of strong mercurial ointment had been rubbed into the legs. Dr. Dobson of Liverpool employed quicksilver in the same double plan, and asserts that he found it equally useful, and most strikingly so in the following case. Four children of the same family had evinced this disorder in succession; three had fallen victims to it under a different treatment: one, between three and four years old, was subjected to the mercurial plan of calomel and inunction. In forty-eight hours a ptyalism was excited, the symptoms abated, and the child recovered.† Dr. Gölis prefers the internal to the external use of mercury, as far more active and to be depended upon. He gives it in free doses, and observes, “that an infant of a year old and under will bear a much larger proportion without diarrhœa or griping, than those of four, five, six, or even eight years of age.” And hence to the former he often prescribes eight or ten grains in the course of twenty four hours. If diarrhœa or griping be produced, it should be remitted. With Gölis, ptyalism has proved a rare effect.‡

In adults, the ordinary proportion is ten grains of calomel, and a drachm of strong mercurial ointment, every night. Under this treatment, various cases of success are recorded in the *Edinburgh Medical Journal*.

[After depletion, Dr. Mills exhibits calomel with opium, but, at first, in small doses; and recommends blisters, or the antimonial

GEN. VII.

SPEC. I.

E. Cephalitis profunda.

Temporal artery sometimes opened with great success.

Mercury externally and internally in large doses.

\* Statement of the early symptoms which lead to the disease termed Water on the Brain. By G. D. Yates, M.D. 8vo. 1823.

† *Edin. Med. Com.*, vol. vi. p. 224.

‡ Gölis, *ut supra*.

GEN. VII.  
SPEC. I.  
β E. Cephalitis  
profunda.

ointment, to be applied to the head, or its vicinity. He has also given nauseating doses of tartar emetic with decided benefit.] \*

## SPECIES II.

### EMPRESMA OTITIS.

#### *EARACHE. IMPOSTEME IN THE EAR.*

SEVERE PAIN IN THE EAR; TENDERNESS UPON PRESSURE;  
DEAFNESS, OR CONFUSION OF SOUNDS.

GEN. VII.  
SPEC. II.  
Causes.

In these cases inflammation in the external ear: but sometimes internal, and extends to the brain.

THIS is usually a distressing rather than a dangerous disease; but the fever is sometimes violent, and delirium and even death has been a consequence. It is often produced by cold, and is hence frequently a local catarrh: and is still more commonly, perhaps, occasioned by some exotic substance which has accidentally entered into the ear, as a small piece of ragged bone †, a cherry-stone ‡, a worm, an insect, or the larva of an insect, as of an ant, a fly, or a cricket; of all which we have a variety of curious histories in medical journals.§ In these instances, the disease is confined to the external ear: but, from many of the ordinary sources of inflammation, it often exists within the tympanal cavity; whence, too, the inflammatory action has extended to the brain, or affected it by sympathy.|| In this case the membranes and lining of the inner organ are coated with coagulable lymph, pus, or both; while even the temporal bone of the affected side has become carious. An instance of this last kind is related by Dr. Powell. The patient was a young gentleman of sixteen, who had been attacked with otitis once or twice before. The pain was intense, but the pulse never exceeded seventy-two: yet the disease proved fatal. The intellect was at no time disturbed.¶

The disease, therefore, offers two distinct modifications, and is so far correctly arranged by M. Itard.

\* Mills, in Trans. of Association of King's and Queen's College of Physicians, vol. v. p. 450, &c.

† Hagendorn, cent. i. obs. 64.

‡ Fabric. Hildan. cent. iii. obs. 4.

§ Stalpart Van der Wiel. Maget. Journ. de Med., tom. lxiv. Mochring, obs. 21. Samml. Medicinischen Wahrnehmungen, b. viii. p. 57.

|| Case of Inflammation and Abscess of the Brain, attended with Disease of the Ear. By John O'Brien, M.D. Trans. King's and Queen's Coll. Dublin. vol. ii. p. 309. 8vo. 1824. Parkinson, in London Med. Repository, March, 1817.

¶ Med. Trans., vol. v. art. xvi. p. 212. The frequent connection of inflammation of the dura mater with affections of the ear, and of the petrous portion of the temporal bone, has been of late admirably illustrated by Dr. Abercrombie. See his Pathological and Practical Researches on Diseases of the Brain, p. 32, &c. 8vo. Edin. 1828. In the Museum of the University of London is a temporal bone, in the petrous portion of which an abscess formed, and the matter from which, after perforating the diseased bone, extended itself gradually down in the loose cellular membrane of the neck to the upper part of the chest. The disease proved fatal by bringing on inflammatory mischief in the neighbouring part of the dura mater.—Ed.

$\alpha$  Externa.  
External Imposteme.

External ear highly irritable, lining membrane, when examined by a bright light, red and tumid.

GEN. VII.  
SPEC. II.  
Empresina  
otitis.

$\beta$  Interna.  
Internal Imposteme.

Hemicrania, sense of weight in the head: roughness about the mouth of the Eustachian tube: tonsils often enlarged.

A hissing or tingling sound accompanies both varieties; but is most painful in the latter. M. Itard \* believes both to proceed chiefly from cold, and to possess much of the nature of a catarrh: but in dividing them into two distinct sub-species, a catarrhal and purulent, he ramifies very unnecessarily; for, let the exciting cause be what it may, the purulent is only a subsequent state to the preceding.

The EXTERNAL OTITIS generally suppurates in a short time, and then more completely forms what is vulgarly called an IMPOSTEME or IMPOSTHUME in the head, a term corrupted from *apostome*; the discharge, which is usually yellowish, puriform, fetid, and somewhat bloody, flows from the external auditory passage in a greater or less abundance, according to the extent of the inflammation. It commonly diminishes in about a fortnight or three weeks; when the fluid becomes thicker, and to the eye, and even the smell, caseous. It then ceases, and is succeeded by a copious ceruminous secretion, which passes off without any injury to the sense of hearing.

$\alpha$  E. Otitis  
externa.

This is the ordinary course; but it sometimes runs into a chronic state, and especially where there is a morbid diathesis from struma, syphilis, or variola; and, under such circumstances, it becomes often tedious and unmanageable, and is accompanied with a thickening of the tympanal membrane, and an obtuseness of hearing. In some cases, however, the *otorrhœa* or chronic state takes the lead. This is mostly the effect of cold, and is, in fact, an otitic catarrh. The discharge from the ear is at first, perhaps, not attended to, and, from particular circumstances, occasionally ceases for a time: but only to show itself in any accidental excitement with renewed violence. The discharge differs in different individuals in its consistence, colour, and the peculiarity of its smell, though the last is always offensive; it is at first mucous, then purulent, and at length consists of a thin sanies; in which last case, connected with the specific fetor that issues from a carious bone, there can be little difficulty in determining that some of the small bones of the ear, or even the temporal bone itself, are affected; which, indeed, are at times thrown out in minute fragments. M. Lallemand, who has ably treated upon this subject, observes that "the morbid secretion is apt to alternate with attacks of rheumatism in other organs, catarrhus vesicæ, leucorrhœa, and various other complaints.†" The most dangerous metastasis is that to the membranes or substance of the brain; which M. Lallemand conceives occasionally produces death so soon, that no trace of such a transfer is to be ascertained on dissection.

Sometimes be-  
comes chronic,

and is called  
*otorrhœa*.

\* *Traité des Maladies de l'Oreille et de l'Audition.* Par J. M. G. Itard, M. D. &c. 2 tom. Paris, 1821.

† *Recherches Anatomico pathologiques sur l'Encéphale et ses Dependances.* Lettre quatrième. 8vo. Paris, 1823.



GEN. VII.  
SPEC. II.  
α E. Otitis  
externa.  
Treatment.

The general remedies for inflammation are here to be resorted to; and particularly warm, narcotic fomentations, and a dry atmosphere. Blisters behind the ears have often afforded relief; and for the same reason stimulant errhines and sialagogues: which, by evacuating the mucous follicles of the Schneiderian membrane, and the salivary glands, produce an influence on all the neighbouring parts, and often on the whole of the vessels of the head. And hence headaches, ophthalmies, and pains in the ear, are in many instances equally relieved by these applications, and were often employed by Dr. Cullen for this purpose.\* When the case is chronic, setons or some other protracted drain should never be neglected.

When worms or larvæ of insects are the irritating cause, a few drops of oil of almonds introduced into the ear will readily suffocate them.

β E. Otitis  
interna.

The INTERNAL OTITIS inflammation or impostume of the tympanal cavity, may commence either in the lining membrane, or in the membranes which cover and connect the minute bones, or even in the mastoid cells; it is soon, however, apt to spread from its primary seat to every adjoining part, so as to implicate every division or recess of the cavity of the tympanum; and, unless the inflammatory action is soon mastered†, suppuration must necessarily ensue, and it rarely happens that the tympanal bones are not involved in this severer process. In some cases in which their articulations or other connecting mediums are destroyed, they drop away as soon as the tympanal membrane becomes so far ulcerated as to allow them a passage. Occasionally, however, a kind of adhesive inflammation, either between the articulating membranes, or the bones where the former are destroyed, may effect an ankylosis, and render them quite immoveable.‡

How far, under these circumstances, the organ of hearing may

How far the  
organ of hear-  
ing is hereby  
destroyed.

\* Mat. Med., vol. ii. p. 436—442.

† The means recommended by Dr. Burne (Cyclop. of Pract. Medicine, art. OTALGIA and OTITIS), are one general bleeding, to the extent of from ten to twenty ounces; the repeated and free use of leeches; blistering the nape of the neck, and an active purge with calomel, jalap, &c., followed up by the exhibition of one or two grains of calomel, and a quarter of a grain of tartarized antimony, every two hours through the first day, and every three or four hours during the second, after which the antimony is omitted, and the calomel continued according to circumstances. If suppuration occur, fomentations and poultices are to be employed, and ammonia and opium prescribed. There may be cases, in which the confined state of the matter will require the membrana tympani to be punctured. — Ed.

‡ Of the five openings, leading to and from the tympanum, three are closed, the fenestra ovalis, and fenestra rotunda by their proper membranes, and the large opening to the external meatus by the membrana tympani; while the other two are open, the one leading to the Eustachian tube, the other to the mastoid cells, which cells, forming a cul-de-sac, leave the Eustachian tube the only open channel of communication with the tympanum from without. Hence, in inflammation of this cavity, it and the mastoid cells become filled with the usual product of inflammation of a mucous membrane, which has no means of escape, because the Eustachian tube itself is generally involved in the inflammation, and closed. In this manner the delicate texture of the ear is exposed to the pressure and other bad effects resulting from the confinement of matter; and hence arise ulcerative perforation of the membrana tympani, puriform discharge from the meatus externus, destruction of the organ by caries, and eventually cerebral abscess, and death. See art. OTITIS, by Dr. Burne, in Cyclop. of Pract. Med. — Ed.

be destroyed must depend upon the extent of the disease, and the parts that have been actually involved in it. If that portion of the organisation which merely assists in conveying the sound has been alone affected, the hearing will not necessarily or altogether be destroyed; and hence the malleus and incus, or two outer bones, are sometimes lost, while the sense of hearing is still preserved in a sufficient degree of perfection for ordinary purposes; the sonorous vibrations being afterwards conveyed through the tympanum, as usual, along its parietes to the stapes, and by the vestibular fenestra to the labyrinth. But if these last have participated in the ulcerative process, and especially if the stapes be detached with the other bones, the vestibule laid open, the sac eroded, and the water which it contains have escaped, the destruction has extended to the sentient, as well as to the conveying part of the general organ, and the loss of hearing will be irreparable on the side on which the mischief has occurred.\*

GEN. VII.  
SPEC. II.  
E. Otitis  
interna.

### SPECIES III.

## EMPRESMA PAROTITIS.

### MUMPS.

PAINFUL UNSUPPURATIVE TUMOUR OF THE PAROTID GLANDS, OFTEN EXTENDING TO THE MAXILLARY; CONSPICUOUS EXTERNALLY; FREQUENTLY ACCOMPANIED WITH SWELLING OF THE TESTES IN MALES, AND OF THE BREASTS IN FEMALES.

THE parotid glands are subject to a troublesome, and sometimes a fatal phlegmon, which we have already noticed under the name of PHLEGMONÉ *parotidæ*. The inflammation before us is altogether of a different kind; it is more extensive, more painful, and rarely tends to suppuration. In our own country it is vernacularly called MUMPS, in Scotland BRANKS, and in France OREILLONS, and OURLES.

GEN. VII.  
SPEC. III.  
How differs  
from parotid  
phlegmon.

The tumour, though sometimes confined to one side of the neck, more usually appears on both: it is at first moveable, but soon becomes diffused to a considerable extent. It increases till the fourth day, and often involves the maxillary glands in the inflammation; is evidently contagious, and often epidemic. After the fourth day, it gradually declines; and, for the most part, there is but little pyrexia, or need for medical aid; a brisk purgative or two, and avoidance of cold, being all that is called for.† The

Description.

Sympathy of  
the testes and  
mammaræ,

\* Edin. Med. and Surg. Journ., No. lxxiv. p. 92.

† The patient's diet should not be stimulating, and exposure to cold ought to be avoided. The common plan of covering the swelling with flannel, sprinkled with hartshorn, or camphorated spirit, is by no means a bad one. Parotitis, in a subacute form, occasionally takes place on the decline of fevers, or follows exanthematous diseases, as measles, small-pox, and scarlet fever, or occurs as an effect of scrofula. It is only in the form of *mumps* that the disease is supposed to be contagious. — ED.

GEN. VII.  
SPEC. III.  
Empresma  
parotitis.  
by no means  
unfavourable;

Sometimes  
alternant.

Malignant  
parotid.

How to be  
treated.

Iodine some-  
times useful.

sympathetic action of the testes and the mammae, is most conspicuous towards the decline of the inflammation. And, in many instances, it is by no means an unfavourable sign; for it has been occasionally found, that where sympathy has not been manifested, or the glandular swelling has been suddenly repelled\*, the symptomatic fever has been greatly exacerbated, delirium has ensued, and even death has closed the scene. When there is any danger of such a result, the swelling should if possible be brought back, or sustained by stimulant cataplasms or blisters. Dr. Hamilton has in several cases observed this sympathetic influence operating alternately; and mentions more than one instance, in which after a very considerable enlargement of the testicle, upon the cessation of the disease, this organ entirely wasted away, insomuch that the tunica vaginalis became an empty bag.†

In advanced life, parotitis is sometimes apt to run into a chronic form, accompanied, with very mischievous symptoms; in which state it is denominated a malignant parotid. This is more especially apt to take place in females when menstruation is on the point of ceasing, and the general action of the system labours under some disturbance. The tumour should, if possible, be dispersed by leeches and cooling repellants: for if it proceed to supuration, to which it tends, though very slowly, the ulcer rarely heals; usually degenerating into a foul offensive sore, that sinks deeper and spreads wider, resisting all medical treatment, and at length undermines the constitution, and destroys the patient. Vomits frequently repeated have in this case been found highly serviceable; and those of the antimonial preparations are to be preferred to ipecacuan. They maintain a longer action, and determine more effectually to the surface, or rather to the excrements generally. [Dr. Neumann, of Neustadtel in Silesia, employed the hydriodate of potass with great success as an external application in empresma parotitis, which prevailed epidemically in that town in June 1823. Among the poor classes, who were treated in the ordinary way, the disease was very tedious, and generally ended in suppuration. Among the higher ranks, the treatment consisted in the exhibition of an emetic, and covering the tumour with a plaster, composed of eight parts of mercurial ointment, and one part of the hydriodate of potass; and the common result was a complete cure in three or four days. In the cases so treated, Dr. Neumann never observed any metastasis to other organs, and he is disposed to impute this to an erythematic redness, which always appeared on the first or second day, and remained from

\* In consequence of the well known fact, that the inflammation in parotitis is strongly disposed to a metastasis from its original seat to other organs, cold applications should be avoided, and this not only with respect to the swelling of the parotid gland itself, but to any secondary inflammations in the breast or testicles. Leeches and warm poultices and fomentations may be safely employed, when the degree of inflammation requires them.—*Ed.*

† *Edin. Trans.*, 1773. Numerous individuals pass through life without even having had parotitis, while a few have it oftener than once. It is most frequent in children, in whom it is often regarded as a sign of their being about to shoot up in their growth. The hypothesis that strumous children are more liable to it than others, does not agree with the editor's observations. Sometimes it is endemic in schools, particular towns or villages, public institutions, ships, &c.—*Ed.*



eight to twelve days.] \* In a case, in which a diseased condition of the parotid gland formed only part of an enormous tumour in a patient aged forty, Mr. Carmichael removed the whole by the knife, and the patient recovered, with a slight partial paralysis of one of the muscles on the affected side.† [The parotid gland, when affected with cancer or sarcoma, has also been successfully removed by Bécclard, Lisfranc, Professor Naegele of Heidelberg, and others. When, however, the whole of the gland is diseased, its deep extension at the base of the skull makes the removal of every portion of it impracticable. In one example, in which the disease created a serious impediment to deglutition, and had made such progress, that the effectual removal of the whole of it seemed impossible, Dr. Fricke of Hamburg tied the carotid artery. The result was a partial diminution of the tumour, and an improvement in the power of swallowing; but abscesses afterwards formed in the swelling, and the patient fell a victim to constitutional disturbance.]

GEN. VII.  
SPEC. III.  
Empresma  
parotitis.

#### SPECIES IV.

### EMPRESMA PARISTHMITIS.

#### QUINSY.

REDNESS AND SWELLING OF THE FAUCES; WITH PAINFUL AND IMPEDED DEGLUTITION.

THIS is the squinsy or squinancy of our old writers; the cynanche or angina of medical books. Paristhmia, from  $\pi\alpha\rho\iota\varsigma$  and  $\iota\sigma\theta\mu\acute{o}\varsigma$ , literally *morbus finium*, or *throat-affection*, is the term employed by Hippocrates, and is only varied to paristhmitis, in the present system, in consonance with the general termination of all the species belonging to the genus before us. The term was used among the Greeks, as on the present occasion, in a specific sense: though the later Greek physicians gave different names to its different varieties; and hence we meet with cynanche, synanche, and parasynanche; the common signification of all which is *angina* or *strangulation*, while the prefixes cy- sy- and parasy- are of doubtful meaning, as I have further observed in the preliminary dissertation to the Nosology. Aëtius attempted to justify *cynanche*, but Cœlius Aurelianus, and Paulus, used *synanche*, after Celsus. The Latins employed *angina* in the same extent as Hippocrates did *paristhmia*; quinsy is used in a parallel latitude among ourselves. Sauvages conjectures, and there is some ground for the opinion, that the *synanche* of the Greeks was the *common* quinsy of the present day, the *paristhmitis tonsillaris* of the system before us; their *parasynanche*, the quinsy of the pharynx, *paristhmitis pharyngea*; and their *cynanche*, croup, or *empresma bronchlemmitis*.

GEN. VII.  
SPEC. IV.  
Synonyms.

\* See Rust's Mag. für die Gesamnte Heilkunde, 1826; and Edin. Med. Journ., No. xciii. p. 452.

† Trans. of the King's and Queen's College, Dublin, vol. ii. p. 101. 8vo. 1824.

GEN. VII.  
SPEC. IV.  
Empresma  
Paristhmitis.

Quinsy presents itself to us under four varieties: the common inflammatory sore throat; the ulcerated or malignant; the sore throat that peculiarly attacks the pharynx; and inflammation of the œsophagus.

*α* Tonsillaris.  
Common quinsy.  
Inflammatory sore throat.

Swelling of the mucous membrane of the fauces, and especially of the tonsils; redness florid; fever a cauma.

*β* Maligna.  
Ulcerated, or  
Malignant sore throat.

Redness crimson; with ulcerations covered with mucous and spreading sloughs, of an ash or whitish hue; fever a typhus. Frequently epidemic; generally contagious. Found often as a symptom in rosalia, or scarlet fever.

*γ* Pharyngæa.  
Pharyngic quinsy.

Redness florid, and especially at the lower part of the fauces: deglutition extremely painful and difficult: fever a cauma.

*δ* Œsophagi.  
Quinsy of the œsophagus.

The impediment to deglutition felt below the pharynx, with a circumscribed pain, and rejection of food when it reaches the seat of obstruction.

*α* E. Paristh-  
mitis tonsillaris.  
General  
character.

In the FIRST VARIETY OF COMMON QUINSY, the swallowing is, for the most part, greatly impeded; and the speech, and sometimes even the respiration, rendered highly troublesome; the mucus is excreted sparingly, and consequently there is a considerable clamminess in the mouth; and the pain sometimes spreads to the ears. The disease is never contagious, and, though violent while it lasts, is comparatively of short duration. It terminates by resolution or suppuration, hardly ever by gangrene; though a few sloughy spots sometimes appear upon the fauces.

Causes.

The usual cause is cold; and it is hence found most frequently in spring and autumn, when vicissitudes of heat and cold are most common. It is supposed to affect particularly the young and the sanguine: but, in my own practice, it has occurred as often at other ages and in other temperaments. When it has been reproduced several times within short intervals of each other, it is apt to establish a peculiar diathesis or habit, so as to be excited readily and by very slight occasional causes.

Treatment.

If attacked by a medical process early, much benefit has been derived from astringent and acid gargles, and vapours inhaled by any simple machine for this purpose. Blisters to the throat, or behind the ear, ought also to form a part of the curative plan; and, if bleeding be had recourse to, it should be by scarification, or leeches applied to the tonsils or fauces. An early use of leeches I have often found highly successful, and can distinctly corroborate Dr. Crampton's remark, that leeches fix far more readily on moist internal surfaces than on the skin. Dr. Crampton, by way of caution, passes a thread of silk through the lower half of the body

of the leech\*, but I have never found this necessary. Cooling purgatives, and a low regimen, should also enter into the general plan of treatment. If suppuration cannot hereby be prevented, the better way will be to expedite this termination by the steam of warm water, or water impregnated with the leaves of rosemary or chamomile; and, where the fluctuation is clear to the touch, if the abscess do not of its own accord break readily, it ought by all means to be opened with the lancet.

In a few instances the suppuration has pointed and broken externally, and the termination has been favourable.† And occasionally, from the extent and violence of the inflammation, there has been so much danger of suffocation that it has been found necessary to make an opening into the trachea‡: which has been done sometimes as high as the larynx, and sometimes considerably lower; and, under both kinds of operation, the patient has recovered.§

In the **MALIGNANT** or **SECOND VARIETY**, the inflammation passes at once into the ulcerative stage, and is consequently characterised by the symptoms stated in the definition: the sloughing often takes place rapidly, and spreads widely, and the fever is a typhus. This variety is frequently epidemic, generally contagious, and found often as an alarming symptom in rosalia, or scarlet fever. In its idiopathic form it is usually ushered in with a sense of stiffness in the neck, accompanied with some hoarseness of the voice, and occasionally with symptoms of a coryza. It is in effect a quinsy taking an erythematic or erysipelatous, instead of a phlegmonous, turn, in consequence of the peculiar temperament of the atmosphere, or of the patient, or of some unknown cause.

The sloughs at first appear whitish or cinereous, but soon become brown and often black, and spread over the whole of the fauces and mouth, into the nostrils, and often down the œsophagus; the ulceration has, also, sometimes passed up the Eustachian tubes, and affected the ears. And, as the sloughs appear to carry contagion with them, on being swallowed they have communicated the disease through the entire range of the alimentary canal.

The danger is hence very great if the ulceration cannot be checked, and it is peculiarly so to children and adults of relaxed and delicate frames. The disease makes its appearance most commonly in the autumn, though it has appeared in every season.

The erythematic character is sometimes very striking, the intumescence spreading widely, yet limiting itself to the cellular tissue. Even externally the throat is swollen, hard, and tender; while such is the constriction within, that deglutition is impossible, and there is great danger of suffocation. Dr. G. Gregory has given a well-marked instance of this modification in a young woman in whom it terminated fatally on the sixth day, and has referred to other cases of a similar kind, and mostly with a similar result, from Dr. Kirkland, Dr. Wells, and Mr. James. From its being chiefly seated in

GEN. VII.  
SPEC. IV.  
a E. Paristh-  
mitis tonsillaris.  
Process in case  
of suppuration.

Singular ter-  
minations.

β E. Paristh-  
mitis maligna.

Frequently  
epidemic.

Description.

Explanation.

Extensive  
range of the  
ulceration.

Hence often  
highly dan-  
gerous.

Erythematic  
character  
sometimes very  
striking.

Cynanche  
cellularis (f  
Gregory)

\* Dublin Hospital Reports, vol. iii. p. 229.

† Schenck, lib. ii. obs. 36.

‡ Ballonius, i. p. 182. Fernie, Journ. de Méd., tom. lxii.

§ Fienus, Chir. Tract., iv. c. 1. Musgrave, Phil. Trans., No. 258.



GEN. VII.

SPEC. IV.

§ E Paristh-  
mitis maligna.Whether scarlet  
fever is a pa-  
thognomonic  
symptom.Does not al-  
ways accom-  
pany it.Both may exist  
separately.General  
regimen :and treat-  
ment.

—emetics.

Leeches.

Port wine.

Aromatics.

Mineral acids.

Astringents.

Stimulant  
gargles.Chlorurets of  
soda and lime  
in gargles.

the cellular membrane, Dr. Gregory has given it the name of *cynanche cellularis*.\*

Dr. Cullen regards the eruption of scarlet fever as a pathognomonic symptom of this disease : but this is to confound two complaints that are very clearly distinct, as we shall have further occasion to observe, when discussing rosalia, or scarlet fever. It is at present sufficient to remark that, even in the opinion of Dr. Cullen himself, quinsy is not essential to scarlet fever, or, in other words, does not always accompany it; and that, on the other hand, a scarlet eruption is not essential to the malignant quinsy, or does not always accompany it, though he contends that it does almost always.†

The malignant or ulcerated sore throat may be without a scarlet eruption, or with it; if the former, it is an idiopathic affection, and constitutes a variety of paristhmitis or cynanche. If the latter, it is a symptomatic affection, and constitutes a variety of rosalia or scarlatina.

Cleanliness, pure air, and a free ventilation, are here of the utmost importance : and, as the contagion is often very active, the nurses should be cautious to remove speedily the sloughs and foul mucus that are washed or wiped from the mouth.

The general treatment will necessarily be the same as that we have already pointed out for typhus. Emetics are often employed with great advantage at the commencement of the complaint; and the bowels should be gently opened, but not irritated with drastic purges.

Here, also, as a mean of abstracting blood locally, leeches have been often found of peculiar advantage when timely applied‡: and the throat should be soon afterwards gargled with port wine made still more stimulant by spices or other aromatics; or with a strong decoction of bark, rhatany, or catechu, very sharply acidulated with mineral acids, the aromatic or pungent Cayenne vinegar, or charged with an addition of Cayenne pepper in substance. Gargles of the mineral, and even the metallic, astringents, have also been tried, but, in general, they want poignancy. Lunar caustic, in the proportion of one part to a thousand parts of water, has sometimes been found useful§, as has the tincture of capsicum with infusion of roses, in the proportion of an ounce of the former to seven or eight ounces of the latter.

A strong decoction of mezereon root may, also, advantageously form the basis of a gargle; though even this will be improved by an addition of capsicum or Cayenne pepper||, or the aromatic or mineral acids. The stimulus of mezereon is less acrid than that of Cayenne pepper, but it is more permanent, and acts more immediately on the fauces. [Gargles, containing the chlorurets of lime and soda, have been particularly useful in the present disease.] In conjunction with these, camphor and ammonia have often been found

\* Med. and Phys. Journ., vol. xlviii. p. 287.

† Pract. of Phys., part i. book iii. ch. iv. sect. DCCL.

‡ See Dr. Crampton, on the Application of Leeches to Internal Surfaces. *Dubl. Rep.*, vol. iii.

§ *Journ. de Méd.*, Nov. 1789.

|| *Collin. Med. Comment.*, ii. 27. *Stephen, Med. Comment.*, Edin. v.

beneficial, when externally applied in the form of a liniment.\* Both may be used internally; and the latter will be found, as Dr. Peart has well observed†, one of the best stimulants we can employ, in doses of half a scruple of the sub-carbonate every three or four hours. Bark and wine should also be taken jointly, and in as large a quantity as the system will bear. Even sleep is less necessary than both these: nor should the patient be suffered to rest for a period of three hours at a time, without fresh doses of both, though we wake him for the purpose. Time, indeed, is here every thing: if we make no progress in the first thirty-six hours, we may tremble for the event. Women, unaccustomed to wine, have taken it successfully under this disease, in the proportion of two bottles a day, for more than a fortnight.

QUINSY OF THE PHARYNX is, properly speaking, that which commences in this organ. It is met with but rarely; nor is it, when it does occur, a case of serious importance. It is distinguished by the florid redness of the inflammation, especially at the lower part of the fauces, and by the nature of the fever, which is a cauma. The pain, indeed, extends sometimes behind the sternum, but is only felt in swallowing. The breathing is not affected. A cure is easily induced by swallowing slowly nitrous and mucilaginous medicines, and taking off the phlogotic diathesis, where it prevails, by bleeding and brisk purgatives.

QUINSY OF THE ŒSOPHAGUS, the *cynanche œsophagitis* of Professor Frank‡, is more deeply seated than the preceding, though the inflammatory blush often extends to the fauces. The food will in consequence pass forward to the seat of obstruction, but no further; and, by irritating the inflamed part, produces a painful effort to vomit, which continues till, by a severe struggle, which occasionally reaches to the back-bone, the ingulfed morsel is dislodged, and thrown back into the mouth.

M. Bretonneau, in a recent work of great value, has given instances in which the inflammation before us, instead of leading to ulceration, shows a tendency to the production of concrete and membranous exfoliations, precisely like those of croup; into which disease it occasionally passes by an extension of the inflammatory action from the fauces or tonsils to the glottis. To this modification he has given the name of *angina diphtheritica*, or croupal sore-throat: and wherever it exists its treatment is to be that of this last disease. §

\* Rumsey, Lond. Med. Journ., x.

† Practical Information on the Malignant Sore Throat, &c.

‡ De Cur. Hom. Morb. Epit., tom. ii. p. 104. 8vo. Mannh. 1792.

§ Des Inflammations Spéciales du Tissu Muqueux, &c. Par P. Bretonneau, &c. Paris, 8vo. 1826.

GEN. VII.

SPEC. IV.

β E. Paristh-  
mitis maligna.

Bark and wine,  
in large doses.

γ E. Paristh-  
mitis pha-  
ryngea.  
How distin-  
guished.

Curative pro-  
cess.

δ E. Œsophagi.

## SPECIES V.

## EMPRESMA LARYNGITIS.

## INFLAMMATION OF THE LARYNX.

PAIN ABOUT THE LARYNX; EPIGLOTTIS SWOLLEN AND ERECT;  
BREATHING SHRILL AND SUFFOCATIVE; GREAT ANXIETY;  
DEGLUTITION IMPEDED; FEVER A CAUSA.

GEN. VII.

SPEC. V.

Whether ever  
described till  
of late.  
Probably  
known to  
Mead and Hip-  
pocrates.

Closely re-  
sembles croup.

It is doubtful whether this severe and dangerous complaint has ever been described till of late years. It seems to have been known to Dr. Mead, whose general account coincides with a disease noticed by Hippocrates. It is minutely and accurately detailed by Dr. Home, in his *Principia*; and is the subject of several excellent papers in the *Transactions of the Medico-Chirurgical Society*, particularly by Dr. Farre, Sir Gilbert Blane, Dr. Roberts, and Dr. E. Pereival. It is particularly and accurately described by Professor Frank.\* The disease, as will be perceived by the definition, bears a considerable resemblance in many of its symptoms to croup; is highly acute, and destroys by suffocation in a day or two, unless very actively opposed. Frequently, indeed, it destroys much sooner. Brassavoli mentions a case that proved fatal in ten hours†; and Schenck another, in which suffocation and instant death were produced by a fit of vomiting, the spasmodic action having extended to the stomach or its auxiliary muscles.‡ Of three cases described by Dr. Baillie, each proved fatal; two of them on the third day, and one on the fourth. The patients had all been previously subject to inflammation of the throat, and were between forty and sixty years of age.§

It is produced by cold or the usual causes of quinsy, but has been often excited by too much exertion of the organ in singing, or public speaking.

Description.

The disease makes its approach with the common symptoms of inflammatory fever, as chilliness succeeded by heat; the voice becomes hoarse and indistinct; the breathing laborious, with a painful sense of constriction in the throat; the fauces present a Modena-red colour, and are considerably swollen and turgid, the swelling extending to the face and eyes, the latter not unfrequently protruding, as in cases of strangling; though occasionally the inflammation is confined to the larynx, and no peculiar appearance is to be traced on the tonsils, uvula, or velum palati||; the pulse is quick, and the tongue furred; and every attempt to swallow is accompanied with great distress; the muscles of deglutition, and even those of the chest, being thrown into severe spasms, threatening the patient with instant death from suffocation, and making him call out for air and an opening of the windows.

\* Ut suprâ, tom. ii. p. 105.

† Comment. ad Hippocr. de Rat. Vict. Acut., lib. iv.

‡ Obs. 29. ex Trincavellio, lib. ii.

§ Wardrop's edition of Baillie's Works, i. 54.

|| See Mr. Cockburn's Case, *Edin. Med. and Surg. Journ.*, Apr. 1823.



It is distinguished from croup by the existence of a perpetual and voluntary hawking, rather than a forcible and involuntary cough, as though to clear the passage by expectoration. It is also distinguished from it by the nature of the excretion, which is a viscid mucus, rather than a coagulable and membrane-like exudation. The two diseases differ, moreover, in their proximate causes as considerably as in their symptoms. Laryngitis consists in a *suppurative* inflammation of the membranes of the larynx, extending backward to the membrane common to itself and the œsophagus, between which pus is often found lodged: while croup or bronchitis is a *peculiar* inflammation of the trachea, extending through the bronchial vessels, and exciting, on their internal surface, the secretion just noticed of a concrete filmy material, which threatens suffocation by filling up the opening of the rima glottidis. [How far this last statement agrees with the facts revealed by morbid anatomy, will be considered under the next species.] \*

In the treatment of this distressing malady, our object should be to take off the inflammation by the most active means. For this purpose, eighteen ounces of blood should be instantly drawn from the arm, and eight or ten from the throat by leeches; and the bowels should be thoroughly purged by calomel and jalap, or some other active cathartic. In connection with this process, many writers advise the application of blisters, and the use of relaxant inhalations. But, in preference to both, I would recommend gargles of ice-water acidulated, and epithems of pounded ice applied

GEN. VII.

SPEC. V.

Empresma  
laryngitis.How distin-  
guished from  
croup.

Treatment.

\* The following passage from an article on laryngitis, written by Dr. Cheyne, merits attention: — "We acquire," says he, "a juster view of laryngitis by contrasting that disease with croup. They are both truly inflammatory diseases, but in that point alone do they resemble each other. Croup is a disease occurring before puberty, generally affecting, not merely the larynx, but the whole of the bronchial membrane; ending in an effusion of lymph on the free surface of the membrane; to be cured, probably, in ninety-nine cases of a hundred, by emetics and bleeding timely employed; and it is a disease in which a surgical operation will only add to the danger, to which, in its second stage, the patient is exposed. Laryngitis, on the other hand, is a disease which rarely occurs before puberty; is confined to the upper extremity of the windpipe; ends in a serous effusion into the cellular tissue beneath the mucous membrane; will probably terminate unfavourably, in a great majority of cases, under any method of treatment, in which emetics aggravate the danger, and bleeding is often a doubtful remedy, and in which, when the patient is *in extremis*, bronchotomy will afford the only reasonable hope of safety." (Cyclop. of Pract. Med.) It seems questionable, however, whether this contrast may not, in one respect, go rather too far; for the editor, some time ago, presented a specimen of laryngitis to the London University, taken from a person who died of scarlet fever; and in this instance there was a thick layer of lymph effused, not only on the lining of the larynx, but on that of the trachea. In the foregoing quotation the facility of curing croup has probably been overrated. With respect to the doubtful good effects of bleeding in laryngitis, this observation seems to be intended only for particular cases, because Dr. Cheyne has adduced abundant proof of the benefit often derived from the free use of the lancet in this disorder. At the same time, he refers to instances in which bleeding had pernicious effects. We may, says he, with comparative safety, bleed while the complexion is good, or, in other words, as long as the quantity of atmospheric air, admitted into the lungs, is sufficient to produce that chemical change, by which venous blood, in passing from the right ventricle into the right auricle, is converted into arterial; but when the blood is no longer arterialised; when the face and lips become livid, the expression anxious, the eyes protruded and watery, Dr. Cheyne sets down bleeding as injurious. Under such circumstances, either laryngotomy or tracheotomy is indicated.— Ed.

GEN. VII.  
SPEC. V.  
Empresma  
laryngitis.

externally. Professor Frank recommends, as in bronchitis, a free use of calomel, in the proportion of five grains at a dose to infants of two years old, two or three times a day, or three grains every three hours, till fifteen grains have been taken. If this plan do not speedily answer, no time is to be lost, and bronchotomy must be had recourse to. But whether the opening should be made in the larynx, or below it, must be left to the judgment of the surgeon.

Sometimes  
commences  
mildly, and  
assumes a  
chronic form.  
Chronic disease  
of the larynx.

In a few instances, however, this disease seems to commence with comparatively little violence, and to run easily into a chronic form.

[A disease, well deserving of the name of chronic laryngitis, has been faithfully described by Mr. Lawrence. The patients died of suffocation; but the progress of the complaint was slower than in the more acute modification of the disease, noticed by Drs. Farre, Percival, and Baillie.\* The symptoms were not acute; nor did the inspection of the parts disclose any marks of active inflammation. The membrane, covering the chordæ vocales, was thickened, so as to close the glottis; and a similar thickening extended to a small distance from these parts, accompanied with an œdematous effusion into the cellular substance under the membrane. The epiglottis did not partake of the disorder. In one or two instances, this thickened state of the membrane was the only change of structure observed; but in others, it was attended either with ulceration of the surface near the glottis, appearing as if it had been formed by an abscess which had burst; or with a partial death of one or more of the cartilages of the larynx; viz., the arytenoid, thyroid, or cricoid. The rest of the air-passages, and the lungs, were healthy. In most cases, Mr. Lawrence is an advocate for the early performance of bronchotomy.† The prospect of success will of course very much depend upon the state of the lungs, and the disease being free from any other serious complication.]

Appearances on  
dissection.

Angina  
laryngea  
œdematosa of  
Bayle.

In the *angina laryngea œdematosa* of M. G. L. Bayle, the ex-puition is glairy, rather than membranous. In the course of the chronic inflammation by which the disease is marked, and which produces the effusion, a few tubercles or caruncles are formed, that render inspiration suffocative, yet interfere but little with expiration. A cough, as may be expected, is sometimes a concomitant.

General march.

This form of inflammation has generally been found to take place in debilitated habits, or after an exhausting fever, or some other complaint. If the patient recover, it is usually in about three weeks: for the most part, however, no remedial plan succeeded at La Charité, and the disease terminated fatally in about a month or six weeks. Tracheotomy was often tried, but rarely with success. On dissection, some degree of ulceration, or, purulent discharge, was commonly traced.‡ It ought to be observed, that Dr. M. Hall, Mr. F. White§, Mr. Liston||, and others, have

See Med. Chir. Trans., vols. iii. and iv., and Trans. of a Society for the Improvement of Med. Knowledge, vol. iii.

† Med.-Chir. Trans., vol. vi. p. 221. &c.

‡ Mémoire sur l'Œdème de la Glotte, ou Angine Laryngée Œdémateuse. Nouveau Journal de la Médecine, Janv. 1819.

§ Dublin Hospital Reports, vol. iv. p. 561.

|| Edin. Med. and Surg. Journ., No. lxxvii. p. 568.

since succeeded with tracheotomy in several instances in our own country. If the inflammatory action commence below the larynx, it is called *tracheitis* by Professor Frank\*; yet the pain and struggle are here considerably less than in proper laryngitis, though they sometimes resemble the signs of sternalgia, or angina pectoris.

GEN. VII.  
SPEC. V.  
Empresma  
laryngitis.  
Tracheitis of  
Frank.

## SPECIES VI.

### EMPRESMA BRONCHLEMMITIS.

#### CROUP.

BREATHING PERMANENTLY LABORIOUS AND SUFFOCATIVE;  
SHORT DRY COUGH; EXPECTORATION CONCRETE AND MEM-  
BRANOUS; FEVER A CAUMA.

IN the first edition of the present work, as also in that of his volume on Nosology, the author was induced to follow M. Swediaur, Dr. Young, and various other authorities, in denominating this disease BRONCHITIS; but as the same term is used in a very different sense by various other writers, importing inflammation of the bronchiæ generally, though a sense hardly called for, as, except in the present instance, such affection is usually a symptom of catarrh, or some form of pneumonitis, he has been induced to change the name of bronchitis for that of BRONCHLEMMITIS, which, as importing MEMBRANOUS, or MEMBRANE-LIKE inflammation of the bronchiæ, from *λέμμα*, "a sheath or membrane," as in *neurilemma*, a sheath or membrane of the nerves, is expressly descriptive of that concrete or tubular effusion which peculiarly characterises the complaint. In a valuable treatise published by M. Bretonneau, of Tours, since the second edition of the present work, it has been described under the name of *Diphtheritis*, from *διφθέρη*, pellis, exuvium.†

GEN. VII.  
SPEC. VI.

The bronchitis of various authors, and of the first edition of the present work.

Name, why changed.

[According to Laennec, Ballonius, in 1576, made the first mention of the disease. The best-informed critics, however, now incline to the opinion, that croup was not unknown to physicians of more ancient times. The particular merit to which Ballonius may rightly aspire, is that of having first distinctly described the effusion of coagulable lymph, or the false membrane in the larynx and trachea ‡ Laennec himself admits, that we owe the first good description of croup to Ghisi.§ Dr. Home's "Inquiry,"

\* De Cur. Hom. Morb., tom. ii. p. 107.

† Des Inflammations spéciales du Tissu Muqueux, et en particulier de la Diphthérie, ou Inflammation pelliculaire, connue sous le nom de Croup, &c. Par P. Bretonneau, médecin en chef de l'Hôpital de Tours. 8vo. Paris, 1826.

‡ Ballonii Op. Omn. Med., tom. i. p. 132. Venet. 1734. Also Rubini, Riflessioni sulla Malattia denominata Croup, p. 200.; and Forbes's Trans. of Laennec on Diseases of the Chest, p. 118., note, 2d edit.

§ Martin Ghisi, Lettere Mediche. Cremona, 1749.



GEN. VII.  
SPEC. VI.

Empresma  
bronchlem-  
mitis.

Disease known  
in most parts  
of the world  
at present ;  
though not  
distinctly  
noticed till  
within the last  
century.

Hitherto  
erroneously  
arranged.

which, as Dr. Forbes observes, was the first systematic account of croup in this country, was published in 1765.]

This disease appears in the present day to exist in most parts of the world, and in the American States is called *hives*, supposed by my distinguished friend Dr. Hosaek to be a corruption of the term *heaves*, and probably so named from the heaving or violent efforts of the muscles of the chest and abdomen which take place in breathing during its course. \*

The writers on croup have given but one form of it, except what has been erroneously called spasmodic croup, a disease of a different kind, which has already been described under the name of LARYNGISMUS STRIDULUS. Properly speaking, however, there are two forms, an acute and chronic, under which the present species shows itself, and which may thus be distinguished as varieties:—

α Acuta.

Acute croup.

Sense of suffocation keen, and constrictive; chiefly seated in the larynx; respiration sonorous; voice harsh; cough ringing; great restlessness; terminating in a few days.

β Chronica.

Chronic croup.

Bronchial polypus.

Sense of suffocation obtuse and heavy; chiefly seated in the chest; cough severe, but intermitting; lasting some weeks or months.

Import of  
bronchus  
formerly, and  
on the present  
occasion.

The disease, in both varieties, usually commences with the common symptoms of a cough or catarrh; but essentially consists in a peculiar inflammation, that spreads through different parts, or even the whole range, of the windpipe, from the larynx to the minutest ramifications of the bronchiæ. In this extensive sense, the tube was called *bronchus* by the ancients; and I have hence preferred the term *bronchlemmitis* to that of *trachlemmitis*, or membranous inflammation of the trachea, as such a term would imply a limitation of the inflammatory action to the upper part of the bronchus alone, to which it is not confined in either of the forms before us.

α E. bronch-  
lemmitis acuta.

The FIRST VARIETY, importing the COMMON OR ACUTE CROUP, the suffocatio stridula of Dr. Home, though it extends thus widely, usually commences in the larger parts of the tube; during which a peculiar effusion is secreted, that readily assumes a membranous form, and sometimes lines, not only the trachea above its bifurcation, but also its minutest branches, though the larger parts of the tube are first affected. When chemically examined, the secretion appears to consist chiefly, if not entirely, of the gluten, or coagulable lymph of the blood, diluted with its serosity, and copiously combined with that peculiar substance of the blood, detected by the labours of modern chemistry, which, from its essential ten-

Peculiar mem-  
brane-like  
secretion.

Chemical  
character.

\* For a complete bibliographical history of croup, Dr. Forbes refers to Michaelis, De Angina Polyposa, Argent. 1740. Rubini, Riflessioni sulla Malattia comunemente denominata Croup, Parma, 1813; and Bretonneau, De la Diphtérie, ou Inflammation Pelliculaire, Paris, 1826. These authors prove, by extracts, that the croup was known to several ancient physicians, particularly Hippocrates and Aretæus; although its precise anatomical characters were not so, owing to the imperfect state of pathological anatomy. See Laennec on Diseases of the Chest, &c. trans. by Forbes, note, p. 118. 2d edit.—Ed.

dency to concrete into a fibrous, and even a membranous texture, has received the name of fibrin.

By what means the mucous secretions throw forth this peculiar effusion in the present disease we know not. It is said by some writers to be secreted on no other occasion, and by no other organ; but this is unquestionably a mistake. There are few practitioners, perhaps, of accurate observation, who have not found it discharged at times from the intestinal canal; of which I have already given examples under *DIARRHŒA tubularis*; in which, as in croup, there is an inflammatory affection of the morbid organ, and a spasmodic constriction of the passage.\*

[Croup, says Professor Laennec, is an inflammation of the mucous membrane of the air-passages, with exudation of coagulable lymph, which, becoming concrete at the very moment of its formation, lines the inner surface of this membrane to a greater or less extent. When this false membrane is removed, the subjacent tunica is found of a deep vivid red colour, occasionally livid and somewhat thickened. This colour is commonly very uniform over the whole space, covered by the false membrane, but is also not unfrequently unequal, and occasionally is even altogether wanting.† In the greater number of cases, the degree of redness and swelling is less, than in many instances of dry catarrh. We cannot, therefore, attribute the plasticity of the secretion in croup, the distinctive feature between it and the mucous catarrh, simply to a higher degree of inflammation; but rather to the peculiar nature of that inflammation. The false membrane corresponds exactly to the form of the canals which it invests. Its thickness is usually somewhat greater in the larynx and trachea, than in the bronchiæ, and varies from less than half a line to a line. Its consistence is about that of boiled white of egg; but this generally diminishes towards its extremities. It is of a white colour, sometimes with a shade of yellow, and is almost entirely opaque.

Some days, or even hours, after its formation, it begins gradually to be detached from the mucous coat, to which it had been closely adherent, and, after being broken into fragments by the cough, is sometimes expectorated. The separation is effected by a more liquid secretion, which, becoming in its turn also concrete, constitutes a second false membrane. This process may be repeated several times in succession; but, in general, each successive formation is less consistent than the preceding. The croupy membrane is most commonly restricted to the larynx and upper part of the trachea; but, in other cases, it extends over a great portion, or even the whole, of the bronchial ramifications. Sometimes, the disease is confined to the bronchiæ and their ramifications. More commonly, as has been shown by Bretonneau, the inflammation commences on the tonsils, or the pharynx, and from thence spreads, at the same time, downwards to the larynx, and upwards to the nostrils. The affection usually stops at the œsophagus, but occasionally the false membrane extends to the stomach. In children, the disease almost

GEN. VII.

SPEC. VI.

a E. Bronchilemmatitis acuta.

Morbid anatomy.

Sometimes secreted in other parts of the system:

morbid anatomy of croup.

Nature of the exudation.

Its expectoration.

Its extent.

\* Inflamed mucous membranes, generally speaking, are more disposed to pour out a purulent, or muco-purulent, fluid, than coagulable lymph; but, when the inflammation is violent or peculiar, as it is in croup, the latter substance will be effused.—E.B.

† Hufeland's Journ., l. vi. p. 559.

GEN. VII.  
SPEC. VI.  
\* E. Bronch-  
lemmitis acuta.

Rarely attacks  
them after  
twelve years  
of age.

always begins in the bronchiæ, or larynx, and very rarely extends beyond the glottis; while, in adults, it more frequently originates on the tonsils or pharynx. M. Bretonneau has also shown that what may be called plastic angina, has been frequently mistaken for malignant sore throat. While, however, Dr. Forbes admits the correctness of the statement, that what has often been considered as a gangrenous affection of the throat is merely an inflammation of the same kind as that of croup, and characterised by the formation of a membranous exudation of a peculiar kind, he does not assent to the proposition, that simple croup, or croup unaccompanied by any pharyngeal affection, does not exist as a separate disease.]\*

Dr. Cullen asserts that acute croup seldom attacks infants till after they have been weaned, and that there is no instance of its occurring in children above twelve years of age. As a general rule this remark holds, but the disorder is by no means unfrequent in infants at the breast, of which I had one example not long ago: and it has been found occasionally in persons considerably above twelve years of age.† Those who have once had it are more susceptible of it than before; though the susceptibility gradually wears off as they grow older. It is found equally in midland regions and on the coast, but, perhaps, more frequently in low, marshy grounds than in drier uplands. [Our author believed that there is no unequivocal instance of its being contagious, though it is occasionally epidemic: and Dr. Elliotson has never seen a case in which the circumstances satisfied him that it originated from contagion.‡ Some modern practitioners, however, amongst whom are Lobstein§ and Bretonneau||, mention contagion as one of the causes of croup. A fact recorded by the latter physician, and quoted by M. Guersent¶, is considered by M. Louis to be perfectly conclusive on the point. In another instance, related by M. Lobstein, a young girl who had not been exposed to the same atmospheric influence as her sister, already ill with croup, was attacked by it after having been playing with her at the time when her disease was completely developed. Dissection after death left no doubt of the nature of the disease. Other facts, tending to prove the contagious nature of croup, are adverted to by M. Louis. Professor Laennec also refers to a case showing the danger of respiring the patient's breath too closely.\*\* The asthenic croup, described by Bretonneau as occurring in the hospitals of France, and often joined with malignant angina, is certainly contagious.]

Description.

Acute bronchlemmitis commences usually in the evening, with a

\* See Laennec on Diseases of the Chest, p. 119. 2d edit. transl. by Forbes; also M. Bretonneau sur la Diptérite, Paris, 1826; and P. Ch. A. Louis, Mém. et Recherches Anat. Pathol., p. 212. &c. Paris, 1826.

† Du Croup, considéré chez l'adulte, in Mém. et Recherches Anat. Pathol. Par M. Louis, p. 203. &c. Paris, 1826. According to Dr. Cheyne, the disease may occur at any period, from the second or third month after birth to puberty; and he believes, with Professor Home, that the younger children are when weaned, the more liable are they to croup. After puberty it rarely occurs. Cyclop. of Pract. Med., art. CROUP.

‡ Med. Lect. at Lond. Univ., vid. Med. Gaz. for 1832-3, p. 66.

§ Mém. de la Société Méd. d'Emulation, vol. viii.

|| De la Diptérite, 8vo. Paris, 1826.

¶ Nouveau Dict. de Médecine, art. ANGINE COENNEUSE.

\*\* Op. cit., p. 125.



slight cough, hoarseness, and sneezing, as though the patient had caught cold, and was about to suffer from a catarrh. And to these, in a day or two, succeed a peculiar shrillness and singing of the voice, as if the sound were sent through a brazen tube. "At the same time," says Dr. Cullen, who has well described the progress of the disease, "there is a sense of pain about the larynx, some difficulty of respiration, with a whizzing sound in inspiration, as if the passage of the air were straitened. The cough which attends it is sometimes dry; and, if any thing be spit up, it is a matter of a purulent appearance, and sometimes films resembling portions of a membrane. Together with these symptoms, there is a frequency of pulse, a restlessness, and an uneasy sense of heat. When the internal fauces are viewed, they are sometimes without any appearance of inflammation; but frequently a redness, and even swelling, appear; and sometimes, in the fauces, there is an appearance of matter like that rejected by coughing. With the symptoms now described, and particularly with great difficulty of breathing, and a sense of strangling in the fauces, the patient is sometimes suddenly cut off."\* To which I may add, that the countenance exhibits great distress; the head and face are covered with perspiration from the violence of the struggle; the lips and cheeks are alternately pale and livid.

Dr. Cheyne, who has written one of the best treatises on croup in the English language, has adverted to the following changes, as indicating the different stages of the disease, and the degrees of danger.

1st, There is a ringing croupy cough (to which many children are liable upon taking cold, more particularly those who have had an attack of croup), attended with little or no change in the breathing or sound of the voice.

2d, The unusual shrill, croupy cough, with difficult breathing; the necessary supply of air being with difficulty inspired, from the obstruction of the passage. The voice is altered, broken, both hoarse and puling. The difficult breathing in croup has been compared to the sound of air passing through thick muslin: it rather appears, says Dr. Cheyne, like the sound of a piston forced up a dry pump. It varies considerably, however; for it is either like the sound to which it has just now been compared, dry and hissing, audible in different degrees; or, when the swelling and spasm of the larynx are greater, it is crowing, and sometimes creaking and suffocative. Under this extremity of difficult breathing, children are said to have perished.

3d, The cough and voice are stridulous; the respiration is difficult, laborious, creaking, sometimes suffocative, varying in the degree of difficulty and laboriousness.

4th, The voice is whispering and low; the cough less frequent, and not audible at the opposite side of the room. There is the act of coughing without the sound; the respiration increasing in difficulty and quickness, laborious and interrupted.

1. According to Dr. Cheyne, the first is a state which is rather the forerunner of an alarming attack of croup. It is often without danger. It points out the children, who, when exposed to the usual excitements, are most liable to croup.

GEN. VII.

SPEC. VI.

a E. Bronchilemmatitis acuta.

Different stages of croup.

Degree of danger attending these stages.

\* Pract of Phys., cccxxiv.

GEN. VII.  
SPEC. VI.  
α E. Bronchilemmatitis acuta.

2. When, with the croupy cough, the breathing continues difficult, the serious attack has commenced, and the child is in danger. In this state, the skin is warm, the tongue white, the pulse full and quick, and the countenance much flushed. The usual mucous secretion is interrupted; the patient, if not an infant, is timid and apprehensive; and the eyes are heavy, watery, and bloodshot. The degree of danger is now to be estimated by the breathing.

3. This state denotes the second stage of croup, or that of effusion, which, according to Dr. Cheyne, is generally hopeless. The countenance is still flushed; but with marks of defective circulation. The lungs no longer purify the blood. There is a purple redness in the cheeks, eyes, and nails. The complexion is often mottled, or the flush on the cheeks is circumscribed. The pulse is smaller and very quick. There is sometimes an expectoration of mucus, mixed with flakes of puriform matter. The urine has a sediment in it. The eyes are prominent and bloodshot; the pupil is dilated; and the iris pale. When the breathing is most violent, jactitation occurs, and lethargy, when it is least disturbed.

4. This is the moribund state. The trachea is coated with effusion. The face is leaden, and the eye filmy. The extremities are cold and swelled. The muscular power is exhausted, and the child nearly insensible.\*

The Editor deems the following observations, made by Professor Laennec on the symptoms of croup, well deserving of attention. If we except the expectoration of membranous fragments, or the appearance of false membrane in the fauces, not one of the symptoms is pathognomonic. The crouping voice, or sound, independently of its not being always well marked, does not occur until after the disease has made great progress. The cough, he says, is similar, or nearly so, in other diseases, particularly in certain cases of hooping-cough, in which the *sonorous inspirations* sometimes perfectly resemble the crowing of a cock. Laennec had of late only met with one case of croup, sufficiently severe to be recognised from the beginning. It was soon more fully characterised by the expectoration of fragments of false membrane, moulded on branchiæ of different diameters. In this case, which occurred in a child six years old, the stethoscope detected, during the whole course of the disease, no other respiratory sound but that of a *dry respiration*, evidently tubular or bronchial, unmingled with any of that crepitous dilatation of the pulmonary cells, so strongly marked in infancy. This sign, coinciding with a natural resonance of the chest, will suffice, if it is constant, to indicate croup, affecting the bronchiæ; since it exists in no other case, except sometimes, and in a much less degree, in dilatation of the bronchiæ; a chronic affection, generally of very partial extent, and not liable to be confounded with croup.] †

Only one pathognomonic symptom, according to Laennec.

Sound of respiration in bronchial croup.

Whence the danger of the disease:

The essence of croup consists in the secretion of the viscid and concrete lymph, which is perpetually endangering suffocation. Dr. Cullen does not dwell sufficiently upon this symptom; but ascribes the danger principally to spasmodic action, and represents the accompanying fever, which, on his hypothesis, is also a spasmodic

\* See Cheyne's Pathology of the Larynx and Bronchia, 8vo. Edin. 1809.

† See Laennec on Diseases of the Chest, p. 124. 2d edit.

action, to be very considerable; but spasm was with him, as we have already seen, a favourite doctrine, and his judgment was often warped by it. Dr. Marcus, who regards all fevers as inflammation of some organ or other, and as entirely seated in the arterial system, regards croup also as a local inflammation alone, utterly independent of spasm, which neither exists here, nor in fevers of any kind: and attributes the danger to this symptom solely: which is the more extraordinary, as he regarded croup to be a disease identic with whooping-cough, in which the spasm or convulsion is the most prominent symptom. [Croup, even when most partial, is almost always attended with great constitutional disturbance. In the majority of cases, the symptomatic fever is acute, and very severe; the action of the heart being frequently irregular. In some cases, particularly such as occur in hospitals, it is observed by Laennec, that the pulse is but little accelerated, the skin rough and dirty, the debility extreme, and the breath fetid, even where no gangrenous specks exist in the throat. This variety is denominated asthenic by Guersent and Bretonneau, and is that which is found sometimes to accompany malignant sore-throat.] \* The locality of the disease, as well as the peculiar character of the inflammation, sufficiently distinguish it from catarrh, in which there is also some inflammation of the mucous membrane of the trachea, though of a common kind, and rarely limited to this organ. In children, however, it frequently treads close upon catarrh, measles, whooping-cough, and any other disease that has debilitated the powers of the lungs: for, as Dr. Michaelis observes, whatever tends to weaken or produce any degree of irritation in the lungs, so as to occasion a preternatural secretion into that organ, may be considered as a predisposing cause of croup. † Professor Dupuy, of the Veterinary School at Alfort, gives an instance of its having been communicated in a village, in which it was epidemic, to a dog, brought under his care from a mistaken idea that the dog was suffering from hydrophobia. During the progress of the disease this animal had the shrill, ringing voice of children labouring under it; and speedily died of suffocation. On opening the body, a false membrane was found in the larynx, of a reddish colour, which extended to the bronchiæ; and the lungs were filled with an abundant serous effusion. ‡

[M. Louis has published some highly interesting observations on the croup of adult persons, and ably pointed out both its agreements with, and difference from, the same disease in children. In the

GEN. VII.

SPEC. VI.

a E. Bronchilemmatitis acuta.

whether from spasm,

or inflammation:

both of which are present.

Communicable to dogs.

Comparison of croup in adults with the disease in children.

\* See Laennec on Diseases of the Chest, p. 123. 2d edit., by Forbes.

† On the coast of the Firth of Forth the disease is said to be endemic; and it is also alleged to prevail to a great extent on the coasts of Ireland in the winter and spring seasons. These facts are noticed by Dr. Cheyne (Cyclop. of Pract. Med. art. CROUP), who ascribes one principal exciting cause of croup to the influence of large bodies of water in the vicinity of any place, where the disease is remarkably frequent. On this principle, croup ought to be endemic on every part of the sea coast: no doubt there must be other circumstances concerned. The exciting cause is undoubtedly, in almost every instance, cold and wet; and hence its greater frequency in spring and winter than in other seasons. It is more common in northern than southern latitudes, and sometimes epidemic. An age under twelve years might be regarded as a predisposing cause of the disease. — E.n.

‡ Bibliothèque Médicale, Aout, 1822.



GEN. VII.  
SPEC. VI.  
α E. Bronch.  
lemnitis acuta.

latter subjects, it resembles, at first, a slight cold, speedily followed by pains in the fore part of the neck, and usually unpreceded by sore-throat. The cough soon becomes violent, recurring in paroxysms: there is a hissing sound in the breathing; with dyspnœa; the croupal voice, &c. On the contrary, in adult patients, there is more or less soreness of the throat at the very commencement of the attack accompanied with heat, difficulty of deglutition, and little or no cough. The inflamed tonsils and pharynx soon become covered with coagulable lymph, and then pain begins to be experienced in the larynx and trachea, speedily followed by dyspnœa, anxiety, change of the voice, but rarely with suffocative paroxysms, even in the last hours of existence. M. Louis, however, regards this description as only generally applicable, since, in many cases lately recorded, children are represented to have had a soreness of the throat, as one of the earliest symptoms; and, according to M. Guersent, croup frequently begins in this way in infants at the breast. In the croup of adults, the nasal fossæ, the pharynx, the velum palati, the uvula, the tonsils, the larynx, the trachea, and sometimes the bronchiæ, were found, on dissection, covered with coagulable lymph, or a false membrane, the consistence and thickness of which diminished according to the order in which the parts are here specified.]\*

Treatment.

The cure demands prompt and active remedies; and must depend, not so much upon searching into and correcting the remote cause, or even counteracting the spasm, as in counteracting the inflammation, preventing the further effusion of lymph, and promoting the loosening and discharge of that which already invests and obstructs the larynx and trachea.

Copious  
bleeding.

There is in the patient a perpetual effort to remove this solid secretion by coughing; but the cough is for the most part dry and ineffectual, and nothing more than a little flaky mucus is excreted. Very copious bleeding,† at the commencement of the attack, by breaking down abruptly the inflammatory action, has sometimes carried off the disease at once. This M. Fieliz and Dr. Cheyne recommend from the jugular veins‡, and M. Ghisi by topical scarifications; but, in infancy, leeches will usually be found to answer best; and, in adults, their repeated application may be useful after general bleeding. Emetics have afterwards been tried, but with doubtful success: sinapisms§ and blisters|| with as little.

Emetics  
doubtful:  
sinapisms  
and blisters.

[It deserves to be mentioned, however, that all these means are spoken favourably of by Professor Laennec and Dr. John Forbes¶, and that emetics are the remedy in which Dr. Cheyne has most confidence. When an attack of croup is apprehended, the latter

\* P. Ch. A. Louis. *Mém. et Recherches Anat. Pathologiques*, pp. 239—242. &c.

† Michaelis, *Richter's Chir. Bibl.*, b. v. p. 739. Dr. Elliotson recommends bleeding from the arm or jugular vein, and the application of leeches to the throat. He would follow up general by local bleeding; and, after promoting the hemorrhage from the leech bites with a poultice, would put on a blister. (*Lect. at Lond. Univ.*, as published in *Med. Gaz.* for 1832—33, p. 66.) A proposal has been made to apply ice in a bladder to the throat, after the leech bites have bled well.—Ed.

‡ Fieliz, *Richter's Chir. Bibl.*, b. viii. p. 531.

§ Fieliz, *loc. cit.*

|| Inquiry into the Nature, &c. of the Croup.

¶ See Laennec on Diseases of the Chest, transl. by Forbes, p. 126—7, 2d edit.

physician prescribes an emetic, the warm bath, a dose of jalap and calomel, and dilution. When the first stage is formed, he has recourse to an emetic, the bath, a mercurial purge, venesection, a blister over the sternum, calomel in doses of one, two, or three grains every hour, diluents, and the antiphlogistic regimen. In the second stage, emetics are his chief remedies; and he has recourse to cordials when the strength flags.] The inhalation of warm vapour, recommended by Dr. Home, can rarely be practised, from the extreme restlessness of the little patient; and the remedy principally relied upon in the present day, and which certainly seems in many instances to have operated like a charm, is large and repeated doses of calomel; of this, not less than five or six grains are commonly given to very young children, and continued every two or three hours till there is a discharge of a green bilious matter, which seems to be the criterion of its having taken effect, and not only excites a salutary counter-action, but prevents the further secretion of thick lymph. [The mercurial practice, joined with the antiphlogistic, is that of which the editor's observations lead him to entertain the highest opinion. The free and quick exhibition of calomel was first proposed by Dr. Rush, and afterwards recommended by Dr. Hamilton. It has the sanction of Professor Elliotson, who pronounces it to be a better practice, than that of giving emetics.] Relaxants, as antimony and ipecacuan, should be employed during the action of the calomel: and as soon as this has answered, sedatives, as opium or hyoscyamus, may be united with the relaxants: but, above all, the hydro-cyanic acid, as already recommended in whooping-cough, and to the same extent. If this plan should not succeed, Dr. Michaelis recommends tracheotomy; and has so little apprehension of its being attended with danger, that he advises it to be had recourse to soon after the attack, as affording a convenient opportunity of bringing away the preternatural membrane which serves as a lining to the trachea.\* But this advice is given with more courage than judgment. Whenever the operation is performed, it should be after every other remedy has failed, and not before any other has been attempted. [When the exudation extends through the trachea, and ramifications of the bronchiæ, as the pathological observations of Laennec, Louis, and many other writers, prove to be frequently, though not always the case, there will be but little hope of benefit from such an operation.† Dr. Cheyne also long ago showed, that the operation cannot be necessary for the purpose of letting air into the trachea; for in patients who died of the disease, he found a pervious canal one-fourth of an inch in diameter. He considered the operation as equally unfitted for the removal of the membrane; for, from its extent, tenacity, and adhesions, this is almost always impracticable; and even if it could be extracted, respiration would be but little improved, as the ramifications of the trachea, and bronchial cells, would still remain obstructed.‡

GEN. VII.

SPEC. VI.

a E. Bronch-  
lemniis acuta.Vapour of  
warm water.

Calomel.

Relaxants.

Narcotics,

Prussic acid.

Tracheotomy.

\* De Anginâ Polyposâ, &amp;c. ut supra.

† Boyer, *Traité des Maladies Chir.*, &c. tom. vii. Paris, 1821.‡ See Cheyne's *Pathology of the Larynx and Bronchia*. Edin. 1809. Dr. Elliotson has tried bronchotomy without success; yet, after the failure of bleeding, mercury, blisters, cold applications, and even emetics (in which last he does not seem to put great confidence), he conceives that, if the patient's friends con-

GEN. VII.

SPEC. VI.

α E. Bronch-  
lemmitis acuta.

Cause of death.

The question relating to this operation is intimately connected with another point; namely, how far the fatal result of croup may be really owing to the obstruction of the glottis with coagulable lymph. If, says M. Louis, the false membrane lessen the air passages of a child more than those of an adult, it is seldom in a degree sufficient to produce a mechanical impediment to the free circulation of air; and as death frequently occurs in children after the false membranes have been expectorated, this result is no longer ascribable, at least in all cases, to the mechanical impediment to the entrance of air into the lungs. The cases and dissections, recorded by M. Louis, prove how rarely this impediment exists in the adult, in whom death takes place notwithstanding the breadth of the larynx; and he inclines to the opinion, that too much stress has been laid upon the mechanical obstruction of the air-passages, as an explanation of the cause of death in children: he imputes more effect to the spasm of the glottis and trachea; an explanation, which he conceives is equally applicable to the adult and the young subject. But he observes, that it ought not to be forgotten, that the spasmodic symptoms never occur until the larynx has been lined with coagulable lymph, and hence this lymph, and the inflammation of which it is the production, are, in the opinion of M. Louis, always the primary cause of the spasm. He also adverts to various dissections by himself, M. Lobstein, and M. Viesseux, from which it appears that the lungs and other organs do not exhibit after death the appearances commonly found in cases of asphyxia. At the same time, he conceives, that the deficiency of respiration has a share in producing the fatal termination, but that the functions of the heart and lungs cease simultaneously, so as to make a difference from asphyxia, strictly so called.\* The course of the disease, according to the view taken of it by Dr. Cheyne, is increased action, effusion, laborious respiration, circulation of blood with venous colour, sensorial debility, and death.]

Cold affusion.

Dr. Harden, of St. Petersburg, has of late, after every other remedy had failed, ventured upon cold affusion. He first tried it, in a fit of despair, upon a child of his own, eighteen months old. The child was placed in a bathing-tub, with its belly on a cushion of hay; and a pail of water, 12° Reaumur, was then poured quickly from the head along the spine. The symptoms, after the first affusion, soon diminished; the operation was repeated at intervals, ten times, and the child recovered. He has since employed it with like success in the first stage of the disease; and Dr. Miller, another physician of St. Petersburg, is said to have been, still more lately, as fortunate as himself.†

Distinguished  
from laryngis-  
mus,

Under the genus LARYNGISMUS belonging to the second order of the preceding class, I have observed, that the spasmodic affection there described, from its inducing a sense of suffocation, and possessing various other symptoms resembling those of croup, has

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sent, after being told of the very slender chance of bronchotomy proving useful, such chance ought to be taken. Lect. at Lond. Univ. as published in Med. Gaz. for 1832-33, p. 67.—Ed.

\* C. Ph. A. Louis, *Mém. Anat. Pathologiques*, p. 245. Paris. 8vo. 1826.

† Extract of a Letter from D. Von dem Busch, of Bremen, to Dr. Eberle of Philadelphia. Jan. 6. 1822.



often been mistaken for this last complaint, and been denominated spasmodic croup; though without the pathognomonic sign of a membrane-like exudation, and for the most part without any inflammation whatever. It attacks children suddenly, most frequently in the night, and is apt to return in paroxysms, with short intervals of ease; whilst the real acute croup has no intervals, but continues its alarming course, till it destroys the patient, or yields to the means made use of. During the action of the spasm, in the former case, however, there is a considerable hoarseness and shrillness in the voice, and, from the struggle, a profuse perspiration about the head and face. Violent as these symptoms are, they commonly yield to a brisk antimonial emetic: after the operation of which the patient commonly falls into a sound sleep, and awakes with little remains of the complaint.

The SECOND or CHRONIC VARIETY of BRONCHLEMMITIS, I have introduced chiefly on the high authority of Dr. Warren, who calls it, as I have already observed, a bronchial polypus; a term which may lead to mistakes; and which, in its application to any other part of the body, does not import the febrile action which exists as a characteristic of this disease. A concrete parenchymatous material, obstructing the bronchial vessels, coughed up in smaller or larger masses, sometimes easily and without any attachment to the sides of the bronchial tubes, and sometimes so extensively inscuated by radicles or radiating vessels as to produce a fatal hemorrhage on their being thrown up with violence, has been noticed from a very early period in the history of medicine to the present day. Bartholine, Tulpius, Ruysch, Gretz, and Morgagni, have all been appealed to as giving examples of this affection; and it is very possible that even Hippocrates may allude to something of the kind in the case of Phericides, who, he tells us, was accustomed to bring up from his lungs, in a fit of coughing, γαλακτάδεα, "white milky concretions;" and at length, before he died, ἐν ἑκ μύξης μικρὰ, ξινεστηκῆτα, λευκὸ φλέγματι περιεχόμενα, "firm mucus-like excrescences, surrounded with white phlegm."\* But the complaint does not seem to have been distinctly described till Dr. Warren's history of it.† The case, by which he chiefly illustrates it, is that of a young lady, eight years of age, of a strumous habit, who was suddenly attacked with difficulty of breathing, attended with a short, dry, and almost incessant cough; but without any pain in the side or chest. The symptoms diminished in the ensuing night, and the complaint appears to have been productive of little inconvenience for six weeks; when it returned with additional severity, with costive bowels, a white but moist tongue, and a pulse too quick to be counted. Bleeding, purgatives, and the oxymel of squills relieved her, but the breathing was still laborious; she had wasting night-sweats, and the pulse beat from a hundred to a hundred and twenty strokes in a minute for the ensuing twelve days; at the close of which period she awoke suddenly in the night, and was almost choked in bringing up, by coughing, what Dr. Warren calls "a large polypous concretion." It came up without either blood or mucus, and instantly gave her great relief. For two months afterwards, she seldom passed three days without cough-

GEN. VII.

SPEC. VI.

α E. Bronchlemmatitis acuta.

β E. Bronchlemmatitis chronica.

How far noticed in earlier times.

Not distinctly noticed till Warren's account. Illustrated.

\* De Morb. Popular., lib. vii. sect. xli.

† Med. Trans., vol. i. art. xvi.

GEN. VII.  
SPEC. VI.  
β E. Bronch-  
lemmitis  
chronica.

ing up masses of the same kind, but none so large: she was tolerably easy when sitting still, or in motion in the open air; and though her pulse never beat less than a hundred and twenty strokes in a minute, she had a good appetite, gained some degree of strength and flesh, and entirely lost her night-sweats. She was now suddenly attacked at night with another paroxysm of distressful breathing and a sense of suffocation, and, in the morning, threw up a larger membranous concretion than at any time antecedently, and in the course of the four ensuing days, a quantity quite as large as in the six preceding weeks. From this time the oppression on the lungs returned irregularly after intervals of five, eight, ten, or twenty days, always followed and always relieved by an expuition of the same concrete material; till, at the close of a twelvemonth from the first attack, the patient complained of a pain in the right heel: an abscess formed there, and the os calcis was found carious. From this time the bronchial affection ceased, the breathing was perfectly free, and no more concretion was thrown up.

Concrete  
substance  
expectorated,  
how accounted  
for at first: but  
incorrectly.

Dr. Warren conceived this concrete substance to have been secreted by the mucous glands of the bronchial vessels. But the existence of fibrin, as a constituent part of the blood, was unknown at the period in which he wrote; and his plates and description of the membranous matter expectorated, show evidently that, like that discharged in croup, and often from the intestinal canal, it was composed of this formative element, intermixed with gluten, secreted in layers, and affecting a tubular structure.

Treatment.

In connection with the plan of treatment already pointed out, it is highly probable, that much benefit might, in this chronic form of bronchlemmitis, be derived from the use of mercury and foxglove, and a seton or issue.

Since the publication of the second edition of this work, M. Bretonneau\*, in his treatise on the specific inflammations of the mucous membrane to which we have just referred, has noticed another form of this disease, in which the inflammation either spreads from the trachea to the tonsils and pharynx, or, as is more commonly the case, begins in the latter with the ordinary symptoms of paristhmitis maligna, or malignant sore-throat. In the cases to which he refers, this last disease was epidemic and contagious: and when the affection took this complicated course, the ulcerative process ceased, and the concrete membrane was produced in its stead. There seems to have been something peculiar in the season or the locality that could thus deflect the inflammation of quinsy from its ordinary course, though we meet with instances of modification at times in other inflammations. A speedy cure was sometimes obtained by a rapid and momentary application of concentrated muriatic acid on a piece of sponge, where the inflammation could easily be reached; but, in other cases, it best yielded to a free course of calomel and mercurial friction.†

[Dr. Cullen, as we have mentioned, noticed the occasional red-

\* Dr. Bard of New York, in a Treatise on Croup, published fifty years before the date of Bretonneau's work, is said, by a French writer, to have pronounced croup and gangrenous angina, to be identical. See Dict. de Med. et de Chir. Pratiques, tom. ii. p. 544.—ED.

† Des Inflammations Spéciales du Tissu Muqueux, &c. 8vo. Paris, 1826.

ness of the fauces in croup; and, as the subject was also considered by Dr. Cheyne, some of the observations of M. Bretonneau may not appear altogether new. Dr. Cheyne objected to the plan of regarding the disease as croup, when variously complicated; but, as an able critic has remarked, if the cough, voice, and mode of breathing be those of croup, and if a membrane be actually found on dissection after death, although sloughs may have been observed on the uvula and tonsils, and although the paroxysm may have supervened to, or been complicated with, scarlatina, with measles, or with small-pox, still it is croup; not, indeed, pure and idiopathic, but, though complicated, still croup, still inflammation of the larynx and trachea, exudation, and formation of membrane, giving rise to the same series of symptoms which distinguish idiopathic croup.\* The cases and dissections, recorded by M. Louis†, materially corroborate the doctrine defended by the anonymous critical writer.]

GEN. VII.  
SPEC. VI.  
β E. Bronch-  
lemlittls  
chronica.

## SPECIES VII.

### EMPRESMA PNEUMONITIS.

#### PERIPNEUMONY.‡

INFLAMMATION OF THE LUNGS; OBTUSE PAIN IN THE CHEST; CONSTANT DIFFICULTY OF INSPIRATION, ALLEVIATED BY AN ERECT POSITION; TUMID, PURPLE FACE, OR LIPS; COUGH, GENERALLY MOIST, OFTEN BLOODY; PULSE USUALLY SOFT.§

INFLAMMATION of the lungs has been described under many names. The most common, perhaps, is peripneumonia; for which pneumonitis, employed first, I believe, by Bourgaud, in his Dissert.

GEN. VII.  
SPEC. VII.  
Synonyms.

\* Edin. Med. Journ., vol. v. p. 457. According to M. Bretonneau, diphtheritis does not yield to bleeding; and, notwithstanding the train of inflammatory effects attending it, its progress is arrested by stimulants, as the hydrochloric acid, alum, and the chloruret of lime. Hence, Andral infers, that though congestion exists, it does not constitute the whole of the disease. Anat. Pathol., tom. ii. p. 233.—Ed.

† Mém. et Recherches Anat. Pathol., p. 204, &c. Paris, 1826.

This word "is more properly applied to inflammation either of the air-cells or the cellular membrane around them, whichever it may be. I have no doubt, however, that the inflammation is inflammation of the air cells themselves." (Professor Elliotson in Lectures at Lond. Univ. as published in Med. Gaz. for 1833, p. 130.; also Andral, Clinique Méd., tom. ii. p. 312.) An inflammation of the parenchyma of the lungs, occasionally, but not necessarily, extending to the pleura investing them. (Dr. C. Williams, in Cyclop. of Pract. Med., art. PNEUMONIA.) When the pleuritic covering is involved, Andral terms the case pleuro-pneumonia.—Ed.

§ The common well-known symptoms of this disease, those which are discernible without the aid of the ear, are pyrexia, general feverishness; rapidity and shortness of respiration; cough and expectoration. (See Elliotson's Lect., op. cit.) The following is the character which Dr. Charles Williams considers as most generally applicable to pneumonia: fever, with more or less pain in some part of the chest; accelerated, and sometimes oppressed, breathing; cough, with viscid and rusty-coloured expectoration; at first the crepitant rônchus, afterwards bronchial respiration, and bronchophonism, with dulness of sound on percussion in some part of the thorax.—Ed.



GEN. VII.  
SPEC. VII.  
α E. Pneumoni-  
tis vera.

ation, published in 1751, is here substituted, merely on account of the regularity of its termination. [The disease is one of the most severe and frequent, and, in cold and temperate climates, is calculated by Laennec to be productive of more deaths than any other acute disease.]

The disease, as above characterised, is traced under the three following varieties:—

- |                         |   |
|-------------------------|---|
| α Vera.                 | Fever a cauma; pain severe, little expectoration in the beginning.  |
| True Peripneumony.      |   |
| β Maligna.              | Fever a synochus or typhus; the debility extreme from an early period. Often epidemic.                                |
| Malignant Peripneumony. |   |
| γ Notha.                | Great secretion and expectoration, with a mild cauma. Occurring in weakly habits, and often connected with a catarrh. |
| Spurious Peripneumony.  |   |

The FIRST of these varieties, or TRUE PERIPNEUMONY, is, perhaps, the most common, and has been more generally treated of than the rest.

United by  
Cullen with  
pleuritis.

Dr. Cullen has united inflammation of the parenchyma of the lungs, which is here alone contemplated, with inflammation of their membranes; believing that we have no means of ascertaining a difference from the course or concomitancy of the symptoms, and, in this view of the disease, he has been followed by Professor Frank, who, however, retains the term *pleuritis*, but limits it to what has occasionally been called *bastard pleurisy*.\* In pleurisy, however, the face is comparatively but little flushed, and far less tumid; the pulse is harder; the cough less violent, and, from the beginning to the end, without expectoration; the seat of pain also is fixed: while in peripneumony it shifts not only to different parts of the same side, but often from the one side to the other. However, some degree of pleurisy frequently accompanies pneumonitis from continuous sympathy†; but then it is not idiopathic pleurisy, nor strictly possessed of its symptoms. [“Nothing is more common,” says Professor Laennec‡, “than to find pneumonitis altogether simple, or complicated only with so slight a degree of pleurisy as in no respect to increase its danger, or modify its progress.”] Percussion, if skilfully managed, will often ascertain the particular part in which the inflammation is seated, but the stethoscope will prove a still better diagnostic.

Distinctive  
characters.

Yet some-  
times found  
concurrent.

More easily  
distinguishable  
than inflamma-  
tion of the  
brain and its  
membranes.  
And why.

Analogy  
between  
cephalitis and  
the diseases in  
question.

Inflammation of the substance of the lungs bears nearly the same relation to pleurisy, or inflammation of the membrane that lines the chest, and covers the lungs, as profound or parenchymatous cephalitis bears to meningie. The two former, however, are somewhat more distinct, and less liable to run into each other than the two latter; because one half the pleura, from its duplicature, is more remotely situated from the lungs, and less connected with them. And I have hence followed the ordinary division, and treated of pneumonitis and pleuritis as distinct species, rather than varieties of one common species, which is the view taken of meningie and profound cephalitis. In both sets of disease, however, the membranous is the more acute affection, evinces more violent and

\* De Cur. Hom. Morb. Epit., tom. ii. sect. 185. 8vo. Mannh. 1792.

† Morgagni, De Sed. et Caus. Morb. Ep., art. 19, 14. 37.

‡ On Diseases of the Chest, &c. p. 125, 2d edit. by Forbes.

painful symptoms, and runs through its course more rapidly. And hence, in pneumonitis, as in deep-seated phrensy, the pulse is sometimes soft\*, the fever small†, and the disorder occasionally protracted to twenty days or more.‡

[According to Professor Laennec, the lower parts of the lungs are those most commonly occupied by pneumonitis; and he says, that when the disease involves the whole organ, it is almost always in the inferior part that it commences. These circumstances he views as affording a strong argument against the opinion of Broussais, that tubercles are the product of inflammation. "If this were true," he says, "the inferior, and not the upper, lobes ought to be the principal site of tubercles, but the reverse is well known to be the truth."§ From a note, however, inserted in Dr. Forbes's translation of Laennec's invaluable treatise, some doubt appears to exist respecting the correctness of this author's statement. It is, indeed, corroborated by Andral, although, as Dr. Forbes remarks, hardly in the degree we might have expected from Laennec's observations. Out of eighty-eight cases of pneumonitis examined by Andral, the lower lobe was affected in forty-seven; the upper lobe in thirty; and the whole lung in eleven.¶ Since the publication of Laennec's work, the pupils of Broussais have very often shown the latter physician cases of hepatisation of the upper lobe; Frank even declares his own experience to be the reverse of Andral's. "Frequentius forte superiores pulmonum lobos inflammatos deteximus."¶ In fifty-nine cases, examined by M. Chomel, there were thirteen examples of the upper lobes being affected; eleven, of the lower; thirty-one, of the whole lung; two, of the posterior part; and one, of the middle. The right lung is said to be more frequently attacked than the left, not only in cases of pneumonia, but in almost every other disease to which the lungs are subject. This fact, which is noticed by Morgagni, is confirmed by M. Andral, who has calculated, that, out of two hundred and ten cases of pneumonia recorded either at La Charité, or by Morgagni, Stoll, De Haen, Pinel, or Broussais, the right lung was affected in one hundred and twenty-one; the left in fifty-eight; and both lungs in twenty-five; the particulars of the other six being unknown.\* In fifty-nine dissections, performed by M. Chomel ††, the right lung was affected in twenty-eight of the patients, the left in fifteen, and both in sixteen.]

The causes of true peripneumony are those of inflammation in general; particularly excessive exertion of the lungs, or cold‡‡ applied to the skin, mouth, and stomach. It attacks the robust and

GEN. VII.  
SPEC. VII.  
a E. Pneumonitis vera.

Part of the lungs most frequently affected.

Right lung attacked oftener than the left.

Causes.

\* De Cabanis, Phrenom. Med.

† Cleghorn, p. 262.

‡ Stoll, Rat. Med., part ii. p. 376. Act. Nat. Cur., vol. v. obs. 124.

§ Laennec on Diseases of the Chest, p. 199, 2d edit. by Forbes.

¶ Andral, Clinique Médicale, tom. ii. p. 317.

¶ De Cur. Hom. Morb., tom. ii. p. 132.

\* Andral, Clinique Médicale, tom. ii. p. 317.

†† Diet. de Médecine, tom. xvii. p. 508.

‡‡ This influence of cold is proved by the greater prevalence of the disease in cold seasons and cold climates. Of the cases described by Andral, the number occurring in March and April amounted to a third of the whole; the fewest took place in May, October, and November; and the remaining months had an equal share. Dr. C. Williams has observed the greater prevalence of the disease in London from the beginning of December to the end of April. (Cyclop. of Pract. Med., art. PNEUMONIA.) Frequently undetermined epidemic influences are likewise concerned in exciting the disease.—ED.

GEN. VII.

SPEC. VII.

a E. Pneumonitis vera.

plethoric more frequently than the spare and delicate. [While Laennec admits that, in such persons, the inflammation is more acute, the fever higher, and the disease more easily recognised and cured, he asserts, that the disorder is much more common and fatal in old persons, in whom it is apt to run rapidly into suppuration. Children are likewise very subject to it, and the more so the younger they are.\* “In them,” says Laennec, “the disease is frequently mistaken, because they swallow the expectoration, and death mostly takes place before any hepatisation has occurred, or only very partially.” The facility, with which they fall victims to the disorder at its very commencement, is ascribed by Laennec to the greater necessity of free respiration in early infancy.] The disease prevails most in cold weather, or sudden changes from hot to cold. [It is remarked by Laennec, that cold operates as a cause much less powerfully when it immediately follows excessive heat, and is not prolonged. The Russian, who rolls himself in the snow after coming out of the hot bath, or the bakers, who go from their heated ovens into an atmosphere of a temperature below zero, escape the disease; while porters, whose occupation leads them to stand for a length of time at the corners of the streets, are frequently affected by it. In general, it is a disease of winter and cold climates, and is comparatively rare in the equatorial regions.†] Noxious exhalations have sometimes proved a cause. To these we may refer the frequency of this disease in the outskirts of Mount Vesuvius, as remarked by Vivenzi‡; and, on this account, it is described by Baronius§ and Bovillet||, as endemic. [The poison of serpents, and especially that of the rattlesnake, frequently bring on pneumonitis, and the injection of various medicinal substances into the veins has the same effect.¶]

Morbid  
appearances  
found after  
death:  
their three  
stages.

In an anatomical point of view, pneumonitis presents three degrees or stages, to which Laennec assigns the terms *obstruction*, or *engorgement*, *hepatisation*, and *purulent infiltration*.

In the first stage, the lung is externally of a livid or violet hue, heavier, and much more solid than natural. It is, however, still crepitous, but much less so than in the sound state, and, on pressing it, we find that it is injected with fluid. It retains the impression of the fingers nearly like an œdematous limb. When cut into, it presents a livid or blood-coloured appearance, and a frothy,

\* According to M. Guersent, three fifths of the children, who die in the Hospital for Sick Children at Paris, before the completion of dentition, are cut off by pneumonia (Diet. de Med., tom. viii. p. 96.); and Dr. C. Williams says, that of fifty-five cases of pneumonia, attended by himself and Mr. Byam at a Dispensary in St. Marylebone, in the course of the year, thirty were in subjects only six years old, or under this age. Cyclop. of Pract. Med., art PNEUMONIA. — Ed.

† See Laennec on Diseases of the Chest, &c. p. 220, 2d edit.

‡ Epist. ad Haller. iv.

§ Pleuropneumoniâ ann. 1633, Flaminian infestante. Fidi. 1536.

|| Mémoires sur les Pleuropneumonies Epidémiques, p. 556.

¶ A previous attack of pneumonitis leaves a considerable tendency to another. Rush refers to a native of Germany, resident in Philadelphia, who had the disease twenty-eight times; and Andral mentions one case, in which the disease recurred not less than sixteen times in eleven years. (Clin. Méd., tom. ii. p. 129.) Dezoteux had under his care a patient seven times with pneumonitis, who had suffered fifteen attacks of it. (Diet. des Sciences Méd., tom. xliii. p. 396.) Chomel alludes to its occurrence a tenth time in the same individual. (Diet. de Méd., art. PNEUMONIE); also Dr. C. Williams (in Cyclop. of Pract. Med.), who observes, that, perhaps, the only other circumstance that can be fairly viewed as a predisposing cause, is, the presence of tubercles in the lungs. — Ed.



serous, more or less bloody fluid, issues from it in abundance. The natural areolar and spongy texture of the viscus, however, may yet be distinguished, except at some points where the part is more solid, indicating the transition from the first to the second stage.

In the second stage, or that of hepatisation, the crepitous feel is entirely lost, and the lung has acquired the consistence and weight of liver. It is also frequently less livid externally than in the first stage, but internally its redness is more or less deep, the colour varying at different points from that of violet-grey to blood-red. With these different colours, as is pointed out by Laennec, a striking contrast is formed by the bronchial tubes, the blood-vessels, the specks of black pulmonary matter, and the thin cellular partitions dividing the pulmonary substance into portions or lobules of unequal size. These partitions, which, in a sound state of the organ, are not easily perceived, are now rendered quite distinct by their whiteness. If a portion of lung in this state be cut in pieces, hardly any fluid escapes from it; but if the incised surface be scraped, a little bloody serum may be collected, which is turbid and thick, and not unfrequently blended with another fluid, which is thicker, opaque, whitish, and puriform. When the incised surfaces are exposed to the light, the pulmonary substance will be found to have entirely lost its cellular appearance, and presents a granular aspect, as if composed of small red grains, oblong and somewhat flattened. This granular texture is considered by Laennec to be the criterion of inflammation of the lungs, by which it may be best discriminated from the tubercular obstruction. The granular appearance is rendered still more conspicuous when a portion of hepatised lung is torn. The pulmonary substance now seems to consist of an infinity of small grains, round or oval, very equal in size, and of the several colours already mentioned. They are plainly the air-cells changed into solid grains by the thickening of their parietes, and the obliteration of their cavities by a concrete fluid. Andral even regards pneumonitis as consisting essentially in inflammation of the air-cells, the inner surface of which, he says, secretes at first a muco-sanguineous, and then a purulent fluid.\* The hepatised lung seems, at first sight, larger than natural, but this is not the fact, and the appearance is referred by Laennec to the lung not contracting, as a sound lung does when the chest is laid open. He has measured the chest, but never found it to be dilated, which is one great difference of peripneumony from pleurisy.

In the third stage, or that of purulent infiltration, the lung has the same degree of hardness, and the granular appearance; but it is of a pale yellowish colour.† The pus, as it begins to form, appears in small detached yellow points, increasing the mottled colouring already noticed. By degrees, these points unite, and the whole lung assumes an uniform straw or lemon colour; and, when incised, pours out more or less of a yellow, opaque, viscid matter, evidently purulent, but much less fetid than the pus of a wound. The substance of the lung is also more humid and soft than the red hepatisation. As the purulent softening increases, the ramulated texture gradually disappears, and at length the parenchyma of the lungs breaks beneath the fingers. Accord-

GEN. VII.  
SPEC. VII.  
a E. Pneumoni-  
tis vera.

Morbid  
anatomy.

\* Andral, Clinique Médicale, tom. ii. p. 312.

† See Dr. Hope's Illustrations of Morbid Anatomy, No. 1.

GEN. VII.

SPEC. VII.

a E. Pneumonia vera.

Bronchiæ.

ing to Laennec, when the lung contains much black pulmonary matter, as is commonly the case in adults and old persons, the pus and substance of the lung assume an ash-grey colour. At other times, particularly in children, the pus is of a whitish yellow colour. The collection of the pus in one cavity, so as to form a true abscess, Laennec represents as an uncommon result of pneumonia; a point, however, on which Professor Hinley and Sir A. Crichton do not agree with him. The foregoing three stages are frequently combined. Sometimes the hepatised portions are exactly circumscribed by a lobule; and, in children more especially, we sometimes find in the centre of the lungs a certain number of lobules arrived at the stage of hepatisation, while those immediately around them are perfectly sound. The lining of the bronchiæ is generally very red in the inflamed portions of lung: it is also occasionally swelled; and sometimes the redness pervades the whole bronchiæ, but this is uncommon. In the purulent stage, the membrane is sometimes pale, sometimes red or purple, and in both cases softened.

Laennec maintains, that the species of suppuration above described is the only one of common occurrence in cases of pneumonia; for the vomica of Hippocrates and modern practitioners, he says, is the result of the softening of a large mass of tubercular matter. Among several hundred dissections of peripneumonic subjects, he has not met with a collection of pus in an inflamed lung more than five or six times. They were not of large extent, nor numerous in the same lung. They were dispersed in different situations, and the lungs were in the third stage of inflammation. The walls of these abscesses were formed by the pulmonary tissue filled with pus, and in a state of soft disorganisation, which gradually decreased as it receded from the centre of the collection. When we drag from the chest an inflamed lung, adherent to the pleura costalis, the parts most infiltrated with pus frequently give way, or, without breaking outwardly, yield internally under the pressure, so as to form a soft sanious mass\*: if cases of this kind were received as examples of pulmonary abscess, nothing would be more common. In the course of twenty years, Laennec had never seen in the lungs a true abscess of considerable extent except once, and, in this case, as in all the rest where abscess was found, the inflammation occupied only a part of the lung.

As Dr. Forbes has observed, the testimony of Broussais on the foregoing point is also very strong; for he declares, he has never met with a case of ulceration, without tubercles, but once; and then the inflammation arose from the lodgment of a musket-ball six years in the lungs.† Dr. Bright's work contains but a single example, unaccompanied by tubercles.‡ The frequency of pulmonary abscess, as described by Dr. Baillie, and believed by the generality of English practitioners, is therefore considered by Dr. Forbes to be an error.

Laennec has seen the disorder continue in its first stage seven or eight days, and affect the whole of one lung and part of the other, and prove fatal before the occurrence of any distinct hepatisation.§ On the contrary, in other cases, particularly when the disorder has

Ordinary  
duration of the  
three stages of  
the disease.

\* See also Andral, *Clinique Médicale*, tom. ii. p. 310.

† *Hist. des Phlegm. Chron.*, tom. ii. p. 111.

‡ Bright's *Reports of Medical Cases*, p. 134.

§ Andral, *Clinique Médicale*, tom. ii. obs. 8. and 9.

attacked debilitated or very old subjects, or come on in the course of another severe malady, the inflammation reaches the stage of purulent infiltration in thirty-six or even twenty-four hours. With these exceptions, Laennec fixes the ordinary duration of the different stages of pneumonitis as follows: the first stage usually lasts from twelve hours to three days, before hepatisation is completed; this, or the second stage, lasts from one to three days, before spots of purulent infiltration appear; and the suppurative stage continues from two to six days.

With respect to what Laennec terms the physical signs of the disease, the crepitous rattle, as ascertained by the stethoscope, is the pathognomonic sign of the first stage. The sound of respiration is still heard distinctly, and percussion affords the natural resonance. The extent, over which the stethoscope detects the rattle, denotes the extent of the inflammation. When hepatisation has taken place, neither the crepitous rattle nor the respiratory sound can be distinguished in the part affected; but, if the inflammation be near the surface, or at the roots, or in the upper lobes of the lungs, bronchophonism, or a resonance of the voice within the bronchiæ of the inflamed part, may be perceived. The bronchial respiration and cough always accompany bronchophonism. In the third, or suppurative stage, as soon as the pus begins to soften, the mucous rattle of Laennec becomes more or less perceptible.]

The first symptoms are those of inflammation in general; but there is usually more shivering, or cold fit, and the hot stage is proportionally violent; the head aches considerably, and the urine is high-coloured, [or, to use Laennec's expression, it is of as deep a red as if it held blood in solution; and this character is as strongly marked as in any inflammatory disease whatever. The disorder is attended by active fever from its very beginning, the exceptions being rare, and only happening when the disease is of small extent. There is a great determination of blood to the head, and the face is much flushed.] The pain in the chest is rarely felt in any oppressive degree till these symptoms have continued for a day or two: though sometimes it is coetaneous. It is chiefly felt in a recumbent position, and more on one side than on the other. [It is obtuse and deeply seated. It is generally slight and extensively diffused; but sometimes confined to a point, even when there is no accompanying pleurisy. However, when it becomes very acute, it is commonly on account of the inflammation having extended to some part of the pleura.] \* The cough is usually short, peculiarly distressing, and obstinate; [though according to Laennec, sometimes so slight as not to be acknowledged by the patient, or attendants. The expectoration has, in many cases, an appearance quite characteristic. The sputa, when received into a flat and open vessel, unite into so viscid and tenacious a mass, that we may turn it upside down, even when full, without the sputa being detached.

GEN. VII.  
SPEC. VII.  
a E. Pneumonitis vera.

Sounds audible by means of the stethoscope in pneumonitis.

Description.

\* Laennec on Diseases of the Chest, &c. p. 214, 2d edit. In several cases noticed by Andral, various degrees of pain had been experienced, though no mention is made by him of any inflammatory appearances on the pleura after death. (Clinique Méd., tom. ii. obs. 29. 38. 43. 46.) This merits particular attention, because this eminent pathologist happens to observe in another place (p. 327.), that pain is never experienced unless the inflammation extend to the pleura. This incongruity has been adverted to by Dr. C. Williams. — F.D.



GEN. VII.  
SPEC. VII.  
α E. Pneumoni-  
tis vera.

Sputa in  
pneumonitis.

Pulse variable:  
not always soft.

Terminations  
of pneumonitis.  
Effusion the  
most favour-  
able.

Yet sometimes  
adhesions  
follow.  
Sometimes  
dropsy of the  
chest.

Bloody sputum  
not necessarily  
dangerous.

Their colour is often a shade of red, particularly that of rust; or it may be sea-green, tawny, orange, saffron, yellowish, or dull green. These various colours are often intermixed in stripes in the same pot. The mass of expectorated matter has a semitransparency, like that of horn. It is further remarked by Laennec, that if such sputa constantly existed in pneumonitis, no other sign of the presence of the disorder would be requisite. They commonly appear in the stage of obstruction, and retain their character, until hepatisation is advanced; but frequently they are less viscid, little coloured, and nearly destitute of air-bubbles; and, at other times, we perceive only a few glutinous and slightly tawny sputa, amidst a great mass of mucous expectoration. Frequently the characteristic sputa are observed only at the very beginning of the disease, and sometimes not at this period, or only in such small quantity as hardly to admit of being collected. This is stated by Laennec to be particularly the case in old subjects, and in very rapid attacks. During the period of hepatisation, the expectoration is slight and variable, but it usually consists of a small quantity of pituitous sputa, more or less viscid and vitriform, or of a whitish, or yellowish and half opaque mucus. After the purulent infiltration occurs, the expectoration is more decidedly mucous, and like that in the latter stage of catarrh. It rarely becomes entirely purulent. Lerménier and Andral consider an expectoration of a mixture of blackish blood and diffuent pituita as characteristic of the period of suppuration.] The pulse is variable: in some cases, hard and strong; in some, soft or oppressed; but, with the advance of the disease, it becomes feeble, sometimes fluttering. [When the determination of blood to the head is very great, and marked by coma in the beginning of the disease, as is often the case in old plethoric persons, the symptom is extremely unfavourable, as the patient then usually dies before hepatisation is complete, or the inflammation reaches the stage of purulent infiltration in a few hours.] \* Delirium is an occasional accompaniment, and a highly dangerous symptom, except where it alternates with the pneumonic symptoms, in which case it augurs well. In favourable terminations, the violence of the disease diminishes on or before the seventh day: if it increase beyond this, it commonly proves fatal.

Peripneumony, like other inflammations, terminates in effusion, suppuration, or gangrene; and it has also a termination peculiar to itself, which is that of hemorrhage. The most salutary mode is effusion; for the vessels hereby become relieved, and the secretions immediately add to the relief by commencing an increased action, and consequently an increased discharge of mucus. In consequence of effusion, however, we occasionally find adhesions take place between the lungs and the pleura; and sometimes a collection of water in different parts of the chest; and not unfrequently a flow of blood, apparently from the mouths of the exhalants, without any rupture of vessels, giving a bloody tinge to the sputum. This last has been often regarded as an alarming symptom, but the alarm is altogether unfounded, for it generally affords considerable relief. Indeed, an hemorrhage itself from the lungs has not always been attended with fatal consequences: it has occasionally proved critical, and carried off the disease in a few days: though a hemor-

\* Laennec, op. cit., p. 217.

rhage from the nose, no unusual attendant, is far preferable, as producing a like benefit with less risk. If the inflammation run into suppuration, the change is generally indicated by shiverings, with a remission of pain, and sometimes by perspiration where there has been none before. If gangrene ensue, the pulse sinks, the debility rapidly increases, and the eyes are fixed with a ghastly stare.

[With respect to gangrene of the lungs, it is rather uncommon; so rare in pneumonitis, that Dr. Elliotson has never seen it. The severest inflammation of the lungs, he thinks, seldom, if ever, brings on mortification.\* Laennec† is of opinion, that it can scarcely be reckoned one of the terminations of pulmonary inflammation, and still less the consequence of its intensity; since, in cases of this kind, the inflammatory character is very slightly marked, as well in regard to the symptoms as the appearances on dissection. He conceives, that there is some resemblance between gangrene of the lungs, and that of anthrax and malignant pustule, in which the surrounding inflammation seems to be rather the effect than the cause of the sphacelus. Gangrenous excavations in the lungs constitute the ulcerous phthisis of Bayle.‡ The examples of this affection, recorded by Dr. Bright, merit particular attention.§

From the time of Hippocrates to the present day, pneumonitis has been considered as one of the disorders, in which the abstraction of blood is productive of the most unequivocal good effects. The same agreement, however, has not prevailed with respect to the quantity of blood to be drawn at one time, the period of the disease when blood-letting ceases to be useful, and the part of the body from which the blood ought to be taken. The greater number of the ancient physicians, as Laennec has remarked, bled only at the onset of the disease, and allowed the blood to flow until syncope took place. The same practice is common in England, where physicians frequently direct twenty-four, thirty, or thirty-six ounces of blood to be taken away in the beginning of pneumonitis. In subjects not debilitated by age, or previous habits and disease, Dr. Good, in the former editions of this work, recommended the “bleeding to be prompt and copious, at least to eighteen or twenty ounces, and, if necessary, to be repeated in twelve hours.” M. Andral states, that the first bleeding should be from sixteen to eighteen ounces, and that the operation may be repeated twice, or even thrice, within the first twenty-four hours.|| The advantage of a very copious bleeding at the onset of pneumonia has been placed in a strong light by Dr. Robertson¶, whose practical observations on the subject merit attentive consideration, and whose pre-

GEN. VII.  
SPEC. VII.  
α E. Pneumonitis vera.

Gangrene.

Treatment.

Bleeding.

To be copious and prompt.

\* Dr. Elliotson has seen two examples, in which there was gangrene of the lungs under other circumstances: one was in a man, who had long suffered from a loud hollow cough; the other in a woman, who laboured under an encysted tumour of the pancreas. In her case a slight cough came on, which attracted no attention, and at last symptoms of gangrene appeared; cadaverous look; sudden prostration of strength; great feebleness of pulse; intolerable factor of the breath and sputa. — *Ed.*

† On Diseases of the Chest, p. 221. 2d edit.

‡ Recherches sur la Phthisie Pulmonaire. Paris, 1810.

§ See Bright's Reports of Medical Cases, p. 136. et seq. 4to. Lond. 1827.

¶ Andral, Clinique Médicale, tom. ii. p. 379.

¶ Edin. Med. and Surgical Journ., vol. x.

GEN. VII.  
SPEC. VII.  
α E. Pneumo-  
nitis vera.

Sometimes  
local only.

Bleeding.

Weak pulse not  
always a proof  
of weakness.

cept is supported by Dr. Gregory's celebrated aphorism, that "the danger of a large bleeding is less than the danger of the disease." However, notwithstanding the propriety of copious bleeding in the early stage of pneumonia, the extent, to which the evacuation should be carried, ought certainly to be modified according to the age and strength of the patient. Hence, in the preceding editions, Dr. Good delivered the following caution:]— The chief evil is, that the fever is apt, at times, to run into a typhous form, and assume the second of the varieties before us. And hence, where there is any doubt upon the subject, local bleeding is to be preferred, whether by leeches or cupping-glasses, and repeated according as the evacuation appears to be demanded.

[This doctrine, that the fever of pneumonia is particularly apt to become typhoid, has always appeared to the editor one of doubtful validity. Having seen many cases of this disease in the public service, the experience which he has had makes him conclude, that the symptomatic fever of inflamed lungs is not more disposed to assume the character of typhus, than the fever resulting from the inflammation of other important viscera. The case of which he speaks, however, is not to be confounded with other examples, in which the pneumonitis is only an incidental attendant on typhus, which is the primary affection. As Laennec justly observes, a copious bleeding, in the beginning of the disease, reduces the inflammatory orgasm much more speedily, than repeated smaller venesections, and leaves less chance of a relapse. And, with respect to the fear of bleeding, derived from the consideration of debility and dreams of typhus, although the patient's state of health and strength should always be allowed to modify the practice, and even sometimes to prescribe local instead of general bleeding, the editor believes, that Diemerbroek's maxim, quoted by Dr. Forbes \*, ought never to be forgotten, "*præstat ægrum debilem sanari, quam fortem mori.*" And, as the latter physician inculcates, the vastly inferior power of bleeding in the second and third stages of pneumonitis, ought to make us principally depend upon what we can effect in the first stage. Indeed, after the stage of hepatisation, Lorinser† considers bleeding as useless, if not injurious. In the beginning of the case, however, when the patient is young, strong, or plethoric, venesection, and local bleeding, by means of leeches or cupping, may be simultaneously practised.‡

On this particular subject, one valuable caution is offered by Laennec, namely, that, in pneumonitis, a weak pulse is not always a test of weakness: the feebleness, he says, is sometimes only apparent, and the pulse will become stronger and fuller after bleeding. For the removal of any doubt about the propriety of bleeding, when the pulse is weak, the stethoscope is mentioned as a most valuable instrument. According to Laennec, whenever the pulsations of the heart are proportionally much stronger than those of the arteries, we may bleed without fear; but, if the heart and pulse

\* Laennec on Diseases of the Chest, &c. 241, note 2d ed.

† Lorinser, *Lehre von den Lungenkrankheiten*, p. 259.

‡ Our author has not mentioned mercury as one of the means for subduing inflammation of the lungs. Dr. Elliotson regards mercury as quite as useful in this disorder as in bronchitis. (Lect. see *Med. Gaz.* for 1833, p. 133.) It must of course be preceded by bleeding. — *En.*



are both weak, the practice generally causes complete prostration of strength.

Blisters are employed in pneumonitis by the generality of practitioners, but with very little discrimination. The common error consists in applying them too early, in which circumstance, they increase the fever, and do more harm than good. The best physicians seem now to agree, that blisters should not immediately follow the first bleeding, but be kept back till the acute stage has somewhat subsided.

With respect to purgatives in cases of pneumonitis, glysters and gentle laxatives are generally preferable to stronger medicines. The editor has seen two cases very lately, in which the expectoration seemed to be stopped by the operation of active purgatives, and the patients, though already benefited by bleeding, suddenly became worse, and died. As Dr. Forbes has observed, when pneumonia is complicated with gastric inflammation, strong purgatives are highly improper.

Refrigerants are frequently prescribed in this disease: one of the most common and useful is nitre;] which may be combined with the citrate of potash, or made to produce a more certain determination to the skin, by the addition of camphor or of antimonial wine, or by a combination with the citrate or acetate of ammonia.

In other countries, emetics have seldom been given except in an early stage of the disease, and then only as a gentle puke; yet, from my own practice, I can recommend them when the disease has made a considerable advance; but they must be used holdly, or so as to produce full vomiting, and the action of vomiting must be maintained for an hour, or even two; and in this way they will often produce a transfer of action of as beneficial a nature as the same process is found to do in purulent ophthalmia; and will, at the same time, peculiarly stimulate the exhalants of the lungs to an increased secretion of mucus. [On the Continent, the free exhibition of tartarized antimony in pneumonitis has always had some partisans. To Laennec's knowledge, the practice was constantly followed by M. Dumangin, physician to La Charité, who scarcely ever joined blood-letting with it, and yet his practice was quite as successful as that of Corvisart, who bled much in this disease. Rasori, a modern Italian physician, first revived this method of treatment.\* After venesection, Laennec gives a solution of one grain of tartarized antimony every two hours, repeating the dose six times. After this, if the symptoms be not urgent, and the patient disposed to sleep, he leaves him quiet for six or eight hours. But, if the oppression be great, or the head affected, the medicine is continued, the dose being then sometimes increased to a grain and a half, or two grains, or even two grains and a half. Many patients bear the medicine without being either purged or affected with vomiting. Most of them, however, vomit two or three times, and have five or six stools the first day. On the following days, they have very slight evacuations, and sometimes none at all. As soon as some amendment is produced, we may be sure, says Laennec, that the continuation of the remedy will effect a cure, without any fresh relapse; a point in which this practice is repre-

GEN. VII.  
SPEC. VII.  
a E. Pneumo-  
nitis vera.  
Blisters.

Aperients.

Emetics.

Full vomiting.

Tartarized  
antimony.

\* Storia della Febbre Petechiale, &c. Milano, 1813.

GEN. VII.  
SPEC. VII.  
a E. Pneumo-  
nitis vera.

Paschier's  
antimonial  
plan.

Demulcents.  
Inhalations.

Opium rarely  
useful.

Extract of  
white poppy ;  
and of the  
garden lettuce.

Prognostics.

sented to differ especially from that of bleeding. Of forty-seven cases, treated by Dr. Hellis, of Rouen\*, by repeated emetics, only five were lost, being a proportion somewhat less than one in nine. Laennec experienced even greater success with large doses of the medicine. The average number of deaths, under the treatment with bleeding and derivatives, is computed to be one in six or eight cases. When the medicine operates too freely, Laennec joins a small proportion of opium with it.†] M. Peschier, of Geneva, also prefers the treatment with tartarized antimony ; and depends upon it alone, or nearly so, even discarding the lancet ; for he gives it in large doses, so as to purge as well as vomit. His usual quantity, at first, is, according to the age, from six or eight to fifteen grains, dissolved in six ounces of water, which is taken in divided doses, in any diluting drink, in the course of twenty-four hours. And, under this plan, he tells us, that he cured all his patients, old or young, without exception. He admits, however, the conjoint use of blisters, which ought unquestionably to form a concomitant in the general plan ; and the obstinacy of the cough may be alleviated by demulcents, or inhaling the steam of warm water. [The plan of making tartarized antimony the chief means of treatment has not yet gained many advocates in England. With Dr. John Forbes, the belief of pneumonia being frequently complicated with gastric affections, influences him much against the practice, the merit of which, however, must be determined by experience.] Opiates have been tried in every form, but have never been found of decisive benefit : if opium be used at all, it should be in conjunction with gum-ammoniac or squills : but, upon the whole, either of these expectorants seem to answer best without opium. [The best, the easiest, and even the natural cure of peripneumony, is expectoration, which ought to be encouraged by all the means in our power. It forms the *optima crisis* of Stoll, though, as he adds, a crisis too rarely obtained.] Dr. Saunders recommended the extract of the white poppy ; and that of the garden lettuce has since been tried, upon the recommendation of Dr. Duncan ; others may have been more fortunate than myself, but, in my hands, both have proved altogether insignificant.

If the disease proceed favourably, the pulse becomes slower and softer ; the yellow, tenacious, and perhaps bloody sputum, is mixed with points of a whiter matter, which increases with the amendment of every other symptom ; for the cough is less violent and straining, the breathing freer, the skin moister, and the tongue cleaner at the edges. If the progress be less favourable, the expectoration becomes darker and more viscid ; the pulse lower, indistinct, and often intermitting ; a low, wandering delirium supervenes, with subsultus ; and the patient dies, apparently suffocated, from the oppressed vessels no longer permitting an expansion of the lungs. ‡

\* Clinique Méd. de l'Hôtel Dieu de Rouen, 1826.

† See Laennec on Dis. of the Chest, p. 250. &c.

‡ The progress of pneumonia to a fatal result is marked by a continued aggravation of the dyspnea, with increasing failure of the strength. The cough becomes less capable of expectorating the sputa, which sometimes retain their viscid and sanguinolent hue, as long as any are avoided. In the greater number of instances, there is a total suppression of the expectoration for some

When a salutary expectoration has commenced, it sometimes ceases suddenly, from some unknown cause, or some irregularity in the mode of treatment. This symptom is alarming; and every means should be instantly taken to bring the discharge back; such, particularly, as increased doses of the expectorants already noticed, to which may be added the steam of vinegar, alone, or impregnated with the essential oil of aromatic plants, as rosemary. And if a diarrhœa, which sometimes proves a very distressing concomitant, should supervene, it will be best relieved by the pulvis cretæ comp. cum opio.

Inflammation of the lungs is, also, occasionally found as a symptom or sequel in rheumatism, lyssa, or canine madness; various exanthems, as small-pox, measles, miliaria, and commonly in phthisis; in which last it has a very frequent tendency to suppuration, as we shall have to notice when treating of this distressing complaint. [Peripneumony, thus forming a combination with other disorders, is termed by Laennec *latent* and *symptomatic*, being then particularly liable to be overlooked. Besides the cases just now specified, on which it is frequently an attendant, some others merit recollection: as, for instance, hæmoptysis; different kinds of catarrh; gout; severe erysipelas; violent continued fevers; and bad local injuries and important surgical operations.]

The MALIGNANT PERIPNEUMONY, contrary to the true or common inflammatory affection, is generally an epidemic, and may be easiest explained by describing it as an epidemic synochus, or typhus, occurring in such situations, at such seasons of the year, or in such a temperament of the atmosphere, as have a tendency to excite inflammation of the lungs. The debility is often so extreme from an early stage of the disease, that the pulse ceases on the pressure of the finger; and the vascular action is too weak to accomplish expectoration. It is supposed by many writers, and especially by Sarcene and Ludwig, to be a pulmonic erysipelas, by which they mean an erysipelatous erythema. The symptoms are those already described, with a great addition of sensorial debility, and consequently with increased laboriousness of respiration. The disease is usually fatal on the fourth or fifth day; and if the system be incautiously lowered by venesection or a laxative of too much power, it often takes place earlier; and has sometimes occurred within twenty-four hours after bleeding.

Our attention must here, therefore, be turned rather to the constitutional disease, than to the local affection; and the plan, recommended in typhus, is to be pursued on the present occasion: for it will be in vain to attempt expectoration under circumstances,

GEN. VII.  
SPEC. VII.  
α E. Pneumonia vera.  
Accidental evils.  
How relieved.

Found occasionally in other disorders.

β E. Pneumonia maligna.  
An epidemic synochus or typhus, with inflammation of the lungs.  
The debility extreme.

By some called a pulmonic erysipelas.

Early fatality.

Treatment, as for typhus.

hours before death; but, in others, it is still excreted, though of a different character. The whole sputa, however, in the latter stages of the disease, are generally scanty. Andral describes sputa as sometimes taking place, which consist of a slightly glutinous liquid, and of a reddish-brown colour, resembling liquorice water, or thin syrup of prunes. Towards the concluding scene, the pulse becomes thready and intermittent; the countenance pallid, cadaverous, and bedewed with a cold sweat; the lips livid; the breathing gasping and convulsive, with a rattle in the throat; the sensorial functions, if entire before, now give way; and the patient dies asphyxiated. Whoever has seen the fatal end of pneumonia, must recognise the fidelity of this description, as given by Dr. C. Williams in the Cyclop. of Pract. Med., art. PNEUMONIA.—ED.



## GEN. VII.

## SPEC. VII.

β E. Pneumonitis maligna. Local stimulants.

Bark not injurious to the breathing.

γ E. Pneumonitis notha. Related to catarrh, and sometimes called catarrhus suffocativus : by Frank, C. bronchiorum.

But judiciously distinguished from it by Sydenham.  
Description.

Process of treatment.

Expectorants.

Blistering.

Tonic regimen.

in which the system will probably sink before the usual time arrives for effecting it. Camphor is here a medicine of considerable service, and may be used in conjunction with the aromatic confection, and wine in large quantities. It should be taken freely in the form of pills, rather than in that of julep: though both may be employed conjointly. Even the bark has a powerful claim to be tried, particularly the sulphate of quinine, as in putrid fever; nor has it been found to produce difficulty of breathing. Bark may be advantageously combined with the aromatic spirit of ammonia, which of itself often proves a useful stimulus. If evacuations be necessary, they should be obtained by injections alone. A light breathing perspiration, a free expuition, and a more animated appearance of the countenance, are among the most favourable diagnostics.

The SPURIOUS or BASTARD PERIPNEUMONY is usually allowed to offer another variety of this disease; and is described under the name of *peripneumonia notha* by Boerhaave, Coze, and Sydenham. It is, in many instances, little more than a severe catarrhal affection of the lungs, accompanied with great obstruction, occurring in habits of a peculiar kind; and is hence denominated by many authors *catarrhus suffocativus*, and by Professor Frank, *catarrhus bronchiorum*. \* It is characterised by great secretion and expectoration, with a mild cauma: and is chiefly found in those of advanced life, or who have weakened their constitution by excesses.

Sydenham, however, has properly distinguished this malady from catarrh, notwithstanding the close resemblance it bears to it on particular occasions. The following is his description of the disease: — “The patient is hot and cold alternately, feels giddy, and complains of an acute pain in the head, especially when there is a teasing cough. He rejects all fluids, sometimes from paroxysms of coughing, and sometimes without: the urine is turbid, and of a deep red; the blood appears as in pleurisy. The patient breathes quick and with difficulty; complains of a general pain throughout the entire breast, and, as he coughs, discovers a wheezing to the attendants. The cheeks and eyes appear slightly inflamed; the pulse is small, often intermitting; and lying low, or on one side, is peculiarly distressing.”

As the fever is here of no great moment, we may, with considerable advantage, carry our local stimulants to a greater extent, and thus excite the lungs more actively to throw off the burden of mucus with which they are overpowered. Squills, gum-ammoniac, balsam of Peru, and even some of the turpentine, may be tried, and will mostly be found serviceable. The tetradynamia, as charlock, wild rocket, and mustards of various sorts; and the alliaceous plants, will form useful auxiliaries in the plan of diet. Blistering is highly serviceable; after which, as soon as the chest is a little unloaded, a regimen directly tonic should be commenced, by means of bitters, chalybeate waters, a moderate portion of wine, gentle exercise, pure air, and the irritation of an issue or seton; for a common result of this disease is hydrothorax. Perhaps, more persons fall a sacrifice to some sequel of the disease than to the disease itself.

\* De Cur. Hom. Morb., tom. ii. p. 138.

## SPECIES VIII.

## EMPRESMA PLEURITIS.

## PLEURISY.

ACUTE PAIN IN THE CHEST, INCREASED DURING INSPIRATION;  
DIFFICULTY OF LYING ON ONE SIDE; PULSE HARD; SHORT,  
DRY, DISTRESSING COUGH.

As the proper seat of the preceding species is in the substance of the lungs, or the pleuritic membrane that immediately covers their surface, or in both, the proper seat of the present is in the surrounding membranes of the pleura; and as these differ, the difference has laid some foundation for several varieties; of which the three following may be noticed, as matter of curiosity, though the subdivisions lead to nothing of practical importance, as the causes are nearly alike, and the same mode of treatment is applicable to the whole.

GEN. VII.  
SPEC. VIII.

Empresma  
pleuritis.

How distinguished from  
pneumonitis.

α Vera.  
True Pleurisy.

Fever a caussa: pain felt chiefly on one side; the inflammation commencing in that part of the pleura which lines the ribs.

β Mediastina.  
Pleurisy of the  
mediastinum.

Heavy pain in the middle of the sternum, descending towards its ensiform cartilage; with great anxiety; the inflammation from its symptoms being obviously seated in the mediastinum.

γ Diaphragmatica.  
Pleurisy of the  
diaphragm.

Painful constriction around the præcordia; small, quick, laborious breathing: manifesting that the inflammation is seated chiefly in the diaphragm.\*

We have already pointed out the distinction between true pleurisy and peripneumony; and observed, that, in the former, the cough is dry and commonly without expectoration from the beginning to the end, contrary to what occurs in the latter; that the seat of pain is fixed, instead of shifting from side to side; and that the face is far less flushed and tumid. It must be conceded, however, to Dr. Cullen, who has treated of these affections under one common definition, that the general features of the two have a considerable resemblance; and, with the exception of expectorants, which in pleurisy are of little avail, the mode of treatment already proposed for the former disease, is the same that will be found necessary in the latter: the causes of both are alike, and as peripneumony rarely, though we have reason to believe sometimes,

α E. Pleuritis  
vera.

\* Instead of this division, the editor would have preferred that into acute and chronic pleuritis.

GEN. VII.  
SPEC. VIII.  
a E. Pleuritis  
vera.

Pleurisy and  
peripneumony  
often com-  
bined.

Pain in the  
side not  
pathognomonic  
of pleuritis.

occurs without any degree of pleurisy, so it is commonly affirmed, that pleurisy rarely occurs without some degree of peripneumony; in both which cases it has been called a pleuropneumonia.

[With all the best informed practitioners of the present day, *pleurisy* always signifies inflammation of the pleura, whether attended with stitch, or pain in the side, or not; *peripneumony*, *pneumonia*, or *pneumonitis*, will always stand for inflammation of the lungs, even when accompanied, as it sometimes is, with acute pain in the side; while *pleuropneumonia* will mean the co-existence of inflammation in both organs. The observations of Laennec fully confirm the facts, that pleurisy and peripneumony are very frequently combined; that, in cases where the pleura alone is inflamed, the stitch of the side may be scarcely perceptible, quite transient, or entirely wanting; and, on the other hand, that a violent peripneumony, complicated with a slight pleurisy, may be attended with a most severe pain in the side.\* The latter symptom is, therefore, not pathognomonic of pleuritis. Sometimes, though seldom, the pleura is inflamed on both sides of the chest, so as to constitute what has been termed *double pleurisy*.† It is indeed, as Laennec states, not uncommon to meet with slight degrees of pleurisy on both sides of the chest, produced a few hours before death in several acute and chronic diseases; or with a similar affection that has occurred on one side in the last hours of life, while the other side is violently inflamed. But it is extremely rare to see the pleura of both sides simultaneously attacked with violent inflammation, and abundant effusion; and, when such a case does occur, it is almost always speedily fatal.]

Like peripneumony, we also find pleurisy an occasional symptom or result of typhus, catarrh, rheumatism, various exanthems, and hypertrophy or enlargement of the heart.‡ The pleurisy, however, that is supposed to accompany rheumatism, is often an inflammatory affection of the intercostal or other thoracic muscles alone, since the pain is confined to the origin and insertion of the muscles. Where this has been accurately attended to, it has been distinguished by the name of *bastard pleurisy*; and simply by that of *pleuritis* by Dr. Frank§, and those who have regarded genuine pleurisy as a mere modification of pneumonitis, or peripneumonia.

Description.

Like the preceding species, true pleurisy commences with the usual signs of a febrile attack, as chilliness or shivering, succeeded by heat and restlessness. The pain, or stitch in the side, is usually just above the short ribs, and the dyspnoea is characterised by the expirations being less painful than the inspirations.|| The pulse is

\* See Laennec on Diseases of the Chest, p. 420, 2d edit. Pneumonia is alleged more frequently to produce pleurisy, than pleurisy pneumonia. Dr. Law in Cyclop. of Pract. Med., art. PLEURISY.

† Pleurisy of one side, as Dr. Law observes (Cyclop. of Pract. Med., art. PLEURISY), is not unfrequently complicated with some disease of the opposite lung, which may either become emphysematous, or the subject of bronchitis, or pneumonia. Another frequent complication of pleurisy is tubercles of the lungs.—ED.

‡ Original Cases, with Dissections and Observations, &c. by John Forbes, M.D. p. 222. 8vo. 1824.

§ De Cur. Hom. Morb. Epit., tom. ii. p. 126. 8vo. Mannh. 1792.

|| The pain, which is acute and severe, is usually restricted to a circumscribed



hard, strong, and frequent; and though the cough is mostly dry and suppressed, there is sometimes a bloody or puriform mucus spit up from the lungs. The patient generally lies most easily on the affected side, or the back, and cannot turn on the opposite side without a great increase of the difficulty of breathing. \* [As soon as effusion takes place, the natural sound of the chest on percussion is lost over the whole space occupied by the fluid; and, with the stethoscope, a total absence or great diminution of the respiratory sound, and the appearance, disappearance, and return of ægophonism will be detected. When the effusion is considerable, the respiration usually becomes *purile* on the sound side, and the diseased side is larger than the other.]

GEN. VII.  
SPEC. VIII.  
a E. Pleuritis  
vera.

Like the preceding species, also, pleurisy terminates in resolution, suppuration, and gangrene. The former is the ordinary and most favourable issue. The last occurs rarely, and Laennec has seen only one instance of it from acute inflammation; but suppuration is by no means uncommon; in which case, if the abscess do not point outwardly, an empyema will necessarily follow; and the formation of pus is indicated by a remission of the pain, one or more shivering fits, and, in some instances, a sense of fluctuation. This, however, is a termination far more common to pleurisy from external injuries, than from internal causes.

Termination.

[The pleura, when acutely inflamed, exhibits a punctuated redness, or an infinity of small bloody spots of very irregular figure. They occupy the whole thickness of the membrane, and leave small intermediate portions retaining the natural white colour. It cannot be doubted (says Laennec) that, during life, the redness was uniform; and that the punctuated appearance and partial whiteness are owing to changes which occur after death. Besides this particular redness, the superficial blood-vessels of the pleura are always redder and more distended than in the natural state. Many consider a thickening of the pleura a very common result of its inflammation; but Laennec thinks that, in most cases, where such thickening has been supposed to exist, the appearance was

Anatomical  
characters of  
pleuritis vera.

space; and is considerably increased by any attempt to make a full inspiration. In truth, the respiration is quickened in pleurisy to compensate for the small quantity of air that can be inhaled on each imperfect expansion of the chest. The pain is not augmented by slight pressure, though it is so by strong. At all events, as Dr. Elliotson remarks, the pleurisy must be very severe, if the pain be increased by slight pressure. On the other hand, in rheumatism of the muscles of the chest, the least touch causes pain and soreness. It is also remarked by Dr. Elliotson, that, for the most part, there is profuse sweating in acute rheumatism, such as does not occur in pleuritis. In the latter, the constitution is more disturbed, but the pain is less excruciating than in acute rheumatism. — Ed.

\* The best medical writers contradict one another in their statements about the position in which a patient, labouring under pleurisy, finds himself most easy. The truth is, that some difference prevails in different cases. Dr. Law gives it as the result of his observations, that, generally, as long as the acute lancinating pain of the side continues, the aggravation of it, caused by the pressure, makes the patient put himself either on the opposite side, or upon his back. When the pain has ceased, and extensive effusion takes place, the position before avoided is now adopted; because, the effusion having interrupted the function of one lung, a necessity for greatly augmented action devolves upon the other; and in order to favour this, and to let the muscles have the freest action on the unaffected side of the chest, the patient lies on the diseased side. See Cyclop. of Pract. Med., art. PLEURISY.

GEN. VII.  
SPEC. VIII.  
α E. Pleuritis  
vera.

produced by an extensive congeries of miliary tubercles on the outer or inner surface of the pleura, a cartilaginous incrustation on the parts covered by it, or a layer of coagulating lymph on its internal surface. Inflammation of the pleura, he says, is always accompanied by an extravasation on its internal surface; the matter effused being either coagulating lymph, termed a *false membrane*, or else serosity, or a seropurulent fluid. The serous effusion is commonly of a light yellow colour and transparent, or with its transparency only slightly interrupted by the intermixture of small fragments of pus or lymph, so as to give it the appearance of unstrained whey. In acute pleurisy, it is mostly free from smell. Generally speaking, the more violent the inflammation, the more extensive and thick is the membranous exudation, or layer of coagulating lymph. On the contrary, in weak leuco-phlegmatic subjects, we find a great quantity of limpid serum, with a small portion of thin membrane often floating in it. In such cases the pleurisy seems to pass insensibly into hydrothorax. In some rare instances we find a pseudo-membranous exudation, uniting the contiguous surfaces of the pleura, without any serous effusion. This, as Laennec observes, would be a very common case, if we took into our account those pleurisies which had made some progress towards a cure, the absorption of the fluid being the first step in the sanative process. But the less common examples, to which he alludes above, are noticed in persons dying of some other disease, and who were at the same time affected with a slight and partial pleurisy. In these cases, we find a white, almost colourless, semitransparent exudation, which, while recent, readily allows the parts to be separated, and remains on the surface of each, exactly like a thick and moist paste, which had united two leaves of paper.

Anatomical  
characters.

Sometimes no  
serum effused.

The pleura pulmonalis near the inflamed part is also sometimes covered to a small extent with a layer of lymph of various consistence and thickness. In some cases, we find no serous effusion after death; and Laennec has met with similar examples of partial pleurisy, in which no extravasated fluid could be perceived with the stethoscope.

Period of  
effusion.

Many physicians imagine, that the effusion does not occur till after some time, and even some days. This opinion is pronounced by Laennec to be incorrect. He has several times observed all the physical signs of effusion, viz. ægophonism, and absence of the respiration and sound on percussion, in one hour from the first invasion of the disease, and he has seen the side manifestly dilated at the end of three hours.

Adhesions.

The false membrane, or exudation of lymph, is gradually changed into cellular substance, or rather into a true serous tissue, like that of the pleura. The serous effusion is absorbed, the compressed lung expands, and the false membrane investing it and the costal pleura become united into one substance, which afterwards becomes vascular and organised, and constitutes permanent adhesions. A severe pleurisy, that has terminated by numerous adhesions, renders the part so affected much less liable to subsequent attacks of the same disease; and when it occurs, the inflammation and effusion do not extend to the adherent parts.

When pleurisy is simple, the pulmonary tissue is free from inflammation, even in the vicinity of the inflamed portions of the

plenra; but it is rendered more dense and less crepitous from the compression of the effused fluid. If the extravasation has been very great, the lung becomes flattened and completely flaccid; it no longer contains air,<sup>a</sup> or crepitates; its vessels are compressed, and contain little blood; and the bronchiæ are rendered smaller. Yet there is no trace of obstruction, as in pneumonitis; and if air is blown into the bronchiæ, the lungs expand.\* When the effused fluid is tinged with blood, or, what is rare, contains coagula †, Laennec terms the disorder *acute hemorrhagic pleurisy*.

Among the occasional causes of pleurisy enumerated by Laennec are, inclemency of the winter; long exposure to cold after violent exercise; metastasis of gout, rheumatism, and cutaneous diseases; blows on the chest; and fracture of the ribs. One of the chief dangers of penetrating wounds of the chest, is inflammation of the pleura or lungs. Dr. Law has seen a fatal case of pleurisy produced by perforation of the pleura, in passing the needle round the subclavian artery for the cure of an axillary aneurism. ‡ Among predisposing causes are, a slender frame, narrowness of the chest, the immoderate use of spirits, and tubercles in the lungs. In youth and middle life, plethora, violent exercise, intemperance, and cold, frequently bring on pleurisy; but, in old persons, and subjects of delicate constitution, who take great care of themselves, it is still more frequent. The worst cases, as Laennec truly remarks, occur in the weakest subjects, and in cachectic habits. §]

Perhaps there is no disease in which profuse bleeding from a large orifice may be so fully depended upon, or has been so generally resorted to by practitioners of all ages and all nations; the only question which has ever arisen upon the subject being, whether the blood should be taken from the side affected, or from the opposite. The earlier Greeks recommended the former, the Galenists and Arabians, the latter; and the dispute at one time rose so high, that the medical colleges themselves not being able to determine the point, the authority of the emperor Charles IX. was whimsically appealed to; who, with much confusion to the controversy, died himself of a pleurisy before he had delivered his judgment. He, too, had been bled, and his death was immediately ascribed to the blood having been drawn from the wrong side. At present, from a knowledge of the circulation of the blood, we can smile at these nugatory solemnities. It is possible, however, that there are some controversies of our own times that have as little groundwork, and at which future ages may smile with as much reason. The blood drawn in this disease has a peculiarly thick, yellowish, tenacious corium, and is hence specifically distinguished by the name of the pleuritic corium or coagulum.

[Should the pain and fever not yield to the first or second venesection, Laennec very properly recommends it to be followed up by local bleeding, preferring, however, cupping to leeches. As Dr. J. Forbes judiciously observes, one of the many practical advantages of accurate diagnosis in pleurisy and peripneumony is,

GEN. VII.  
SPEC. VIII.  
a E. Pleuritis  
vera.

Effects of  
pleuritis on  
the lungs.

Causes of  
pleurisy.

Treatment.  
Bleeding  
should be  
copious.

Antiquated  
dispute from  
which side  
blood should  
be drawn.

Whimsical  
reference.

Pleuritic  
corium.

Local bleeding.

\* See Laennec on Diseases of the Chest, p. 121. et seq. 2d edit., by Forbes.

† See Case recorded by Andral, Clinique Méd., tom. ii. obs. 15.

‡ Cyclop. of Pract. Med., art. PLEURISY.

§ Op. cit., p. 445. 2d edit.



GEN. VII.  
SPEC. VIII.  
a E. Pleuritis  
vera.

the much greater benefit derived from local bleeding in the former than in the latter disease. He believes we are accustomed to trust too much to general, and too little to local bleeding in this disease, and that both, combined in moderation, are greatly preferable to either in excess.\*]

Purgatives.  
Blistering.  
Diaphoretics.

Purgatives should be used freely: blistering the side is very generally beneficial after bleeding has been tried and repeated, and should be accompanied with diluents and diaphoretics. [Blisters should not be applied in too early a stage, as they are then apt to increase the fever and pleuritic affection. In this disease, as well as in pneumonitis, Laennec prescribes tartarised antimony freely, and states that it speedily subdues the inflammatory action, and obviates the necessity of abstracting profuse quantities of blood.] Opium may also be employed with less caution than in peripneumony, and is a most valuable medicine, joined with calomel, as recommended by Dr. R. Hamilton.† For promoting the absorption of the effused fluid, the latter medicines, acetate of potass, digitalis, with mercurial inunction, and blisters, are the best means. When the accumulation increases, so as to form dropsy, paracentesis of the chest may become necessary.‡

Opiates.  
Calomel.

β E. Pleuritis  
mediastina.

Case of Dr.  
Perceval, of  
Dublin.

The heart and pericardium are sometimes apt to associate in the morbid action, as well as the lungs themselves. This is particularly the case in the SECOND VARIETY. Dr. Perceval, in his manuscript commentary on the Nosology, has given me a striking example of this, in a patient who complained of excruciating pain in the region of the heart, with dyspnoea, not at all relieved by copious and repeated bleedings. After death a slight effusion was

\* See note in his Transl. of Laennec, p. 479. 2d edit.

† Dr. Elliotson enumerates bleeding, mercury, starvation, and purging, amongst the remedies indicated for the relief of this as well as other inflammations. Mercury is now, indeed, universally acknowledged to be one of the most powerful means of subduing inflammation of the serous membranes in general. — Ed.

‡ Sometimes the affected side of the chest seems more expanded than the other; and if the effusion be in the left pleura, the heart may be so displaced, that it pulsates to the left of the sternum. An accumulation of fluid in the right pleura may push down the liver in an extraordinary manner, so as to cause an appearance in the abdomen, as if that viscus were enormously enlarged, whereas there may not be the slightest disease of it; a mistake which often took place before auscultation began to be employed, but which, with the valuable aid of the stethoscope and percussion, will hardly happen again. The want of a hollow sound on percussion, even without ægophony, which prevails only while the quantity of fluid is moderate (see Elliotson's Lectures), will, with attention to the history of the case, render the diagnosis of fluid in the chest sufficiently clear. When effusion takes place, there is a dead sound on percussion, and no respiratory murmur is heard. Dr. Elliotson observes, that the part of the chest where we should first listen for ægophony, is from about one to three fingers' breadth from the lower angle of the scapula to the nipple, because it is *below* this point that the fluid generally accumulates; and, if the whole lung be covered with effusion, still the thickness of the body of the fluid is always less at the posterior part of the chest. If the lung has been so compressed that it will not expand, and the fluid has been absorbed or let out, and no more has formed, the ribs on that side fall, and lie closer together than natural; the shoulder on that side becomes lower than the other; and the muscles, especially the pectoral, waste. Even the spinal column at length inclines, in some cases, to the affected side. These circumstances were first well described by the celebrated Laennec. Dr. Elliotson, in his Lectures, gives an excellent account of them, with the particulars of a case, in which a chronic pleuritis, terminating in such changes, had been mistaken for phthisis cured by means of muriate of lime. — Ed.

discovered in the pericardium: but the mediastinum was more inflamed than the membrane of the heart. The treatment of this variety ought not to differ from that of the preceding.

The cerebrum is, however, still more disposed to associate in the morbid chain of action than the heart. And hence, when any of the varieties of pleuritis, and particularly the last, are combined with an affection of this organ, and produce delirium, the disorder was formerly distinguished by the terms *paraphrenesis*, and *paraphrenitis*; terms derived apparently from the peripatetic philosophy, which supposed the seat of the  $\psi\chi\eta$ , or soul, to be the *præcordia*; whence this region was denominated  $\psi\rho\acute{\iota}\nu\epsilon\varsigma$ ; while, as Hippocrates supposed its seat to be in the brain, *phrenitis*, with a lamentable confusion of terms, was, as we have already remarked, applied to an inflammation of this last organ, and continues to be very generally so applied in the present day.

It is in the LAST VARIETY that the head is most commonly affected: probably from the general sympathy which the diaphragm holds with the lungs and the stomach, and the close community of action between both these organs and the brain. The breathing is here peculiarly distressing and anxious, the diaphragm being the muscle chiefly concerned in respiration, which now takes place without its aid. The hypochondria are drawn inwards, and kept at rest as much as possible: the patient is tormented with hic-cough and sickness; and there is a peculiar tendency to spasmodic action; whence the angles of the mouth are often involuntarily retracted: there is a sardonic laugh on the countenance, a sense of tightness like the stricture of a cord at the *præcordia*, and convulsions wander from one part of the system to another. Professor Frank mentions a case, in which all these symptoms were present, and which was consequently supposed to be, and was treated as, a diaphragmatic pleurisy, but which on dissection (for it proved fatal), was ascertained to be a case of intestinal worms, the diaphragm showing no manifest affection. It is highly probable, however, that the diaphragm was here influenced by sympathy, and that the distinctive symptoms were the result of such irritation. The treatment should be as in the preceding varieties.

GEN. VII.  
SPEC. VIII.  
 $\beta$  E. Pleuritis  
mediastina.  
 $\gamma$  E. Pleuritis  
diaphragma-  
tica.  
Synonyms.

Head most  
affected in this  
variety; ex-  
plained.

Description.

Confounded  
with worms.

Treatment.

## SPECIES IX.

### EMPRESMA CARDITIS.

#### INFLAMMATION OF THE HEART.

PAIN IN THE REGION OF THE HEART, OFTEN PUNGENT ANXIETY; PALPITATION; IRREGULAR PULSE.

THE symptoms in the definition sufficiently distinguish this species from the preceding. At the same time, it must be acknowledged, that carditis, like pleuritis, has many signs in common with pneumonitis; which may readily be conceived from the vicinity and close connection of the thoracic viscera with each other, and par-

GEN. VII.  
SPEC. IX.  
Resembles the  
two preceding  
species.

GEN. VII.

SPEC. IX.

Empresma  
carditis.Modifications  
of Portal.Great variety  
and uncertainty  
of the symp-  
toms.

ticularly from the very strong sympathy with which they co-operate. Dr. Cullen affirms, indeed, that he has often met with cases of carditis evincing no other symptoms than those of pneumonia, and Dr. Frank concurs in the same testimony. Vogel's definition is founded altogether upon this view, "*Cordis inflammatio ferè ut in peripneumonia.*" I have hence been at some pains to draw a line of distinction; and I think it may be found in the symptoms now delivered as the specific character of the disease. We may add to these symptoms, that there is sometimes, though not always, great difficulty of breathing, generally some degree of cough, but without expectoration, and a perpetual tendency to fainting; and that if deliquium take place, and the patient do not soon recover from it, it proves fatal.\* Portal asserts, that the organic pain is accompanied with an increase of heat, which often spreads to the surrounding regions. This is Portal's *acute* modification of the disease: but he also notices an *obscure* or latent modification, in which its symptoms are but little conspicuous, and whatever exists of them are ascribed to some other disease. The spirit, he tells us, is here suddenly subdued and broken; the pulse is slow, soft, and feeble: there is little pain in the heart, and little or no palpitation. Fainting, nevertheless, is a frequent appendage, and is peculiarly apt to lead astray. This, however, can hardly be called an idiopathic disease. Portal has drawn his description entirely from post-obit appearances in those who have died of severe atonic typhus, or of plague; and observing, as Chicoyneau had before him, occasional proofs of suppuration and gangrene of the heart, he has inferred the previous existence of carditis, and has ascribed the almost instantaneous sinking of the patient to a rapid march of inflammation in this organ, notwithstanding it was not manifestly accompanied with its ordinary indications.†

[The obscurity in the diagnosis of pericarditis is still generally acknowledged. Dr. Ribes continues to assert, that it has no group of distinguishing symptoms. Sometimes, their assemblage would lead one to suspect an extravasation in the pericardium, and dis-

\* Abercrombie, Contributions to the Pathology of the Heart. Trans. of the Medico-Chir. Soc. of Edin., vol. i. 1824.

† Mémoires sur la Nature et le Traitement de plusieurs Maladies. Par A. Portal, tom. 4me, 8vo. Paris, 1819. One case, the fatal result of which had been preceded by several of the symptoms frequently noticed in pericarditis, was opened by Andral. The following is a sketch of the disorder:—In the midst of a good state of health, sudden dyspnœa; pain not very acute about the heart; tumultuous beatings of this organ; very frequent, irregular pulse; increasing suffocation, and death. Nothing wrong was detected about the pericardium and substance of the heart, its auriculo-ventricular openings, the mouths of the great arteries, or its vessels; *but the internal surface of its left cavities were of a bright red colour.* No other morbid changes. In another example, where the patient was seized with pleurisy, and died, after having suffered for three weeks pain about the heart, dyspnœa, and palpitations, and where each contraction of the ventricles was followed by a dull grating sound, Andral found no lesion, but a *vivid red colour of the valves of the aorta*, the texture of which was thickened. In certain cases of organic disease of the heart, where great redness of the whole of this organ, or parts of it, is found after death, not ascribable to putrefaction, and where the patients are suddenly seized with alarming symptoms, connected with exasperation of the disease of the heart, and die in the midst of these aggravated symptoms, Andral suspects that the catastrophe is referrible to the organic disease becoming complicated with acute inflammation. See Clinique Médicale; and Anat. Pathol., tom. ii. p. 279. — Ed.



section afterwards reveals only a partial pleurisy, with matter effused exclusively in the pleura.\* Sometimes great dyspnœa, augmenting until death, with a regular pulse, and without pain, shall be the only sign of an affection of the pericardium, with fluid effused in its cavity.† In another instance, where a tuberculated state of the lungs is ascertained, and yet the respiration is little oppressed, a severe dyspnœa suddenly comes on, and proves rapidly fatal; dissection disclosing a purulent collection in the pericardium.‡ There has been no pain; but aneurismal symptoms have occurred, which the post-obituary examination has not explained the cause of. Such is the influence of disease of the pericardium over the organ which it encloses, that it has occasioned appearances of complaints which had no existence; and the symptoms of chronic inflammation of the membrane may assume a form resembling that of organic disease of the heart. On other occasions, palpitations are the main effects, and the other local symptoms afford no information. In Andral's twelfth case, there was pain at the bottom of the sternum, and in the region of the heart; obscurity in the pulsations of this organ; but strength and regularity in the pulse: dissection showed a stratum of coagulating lymph in the pericardium. Several times in the course of the disease, the dyspnœa and general anxiety subsided with the pain.§

No modern pathologist has investigated the characteristic symptoms of pericarditis with greater discrimination than M. Louis. The cases which he witnessed and verified by dissection show, that the symptoms most to be depended upon are, *a more or less acute pain in the præcordia, taking place suddenly; accompanied with oppression and palpitations in a greater or less degree; irregularity, or intermissions of the pulse, sooner or later followed by an obscure dull sound in the region of the heart on percussion, while the rest of the chest yields a clear resonance.* When all these symptoms are combined in a person previously well, the existence of pericarditis may be inferred. If the pain were absent, and the other symptoms occurred, the diagnosis, according to M. Louis, would be hardly less clear; for the only doubt would be between pericarditis and hydrops pericardii, and this last disease is formed less quickly, and without all the series of symptoms above detailed. In a chronic case, more difficulty would be experienced.||

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SPEC. IX.  
Empresma  
carditis.

Symptoms  
most to be  
relied on.

\* Andral, Clinique Médicale, tom. ii. p. 483.

† Id., tom. iii. p. 43b.

‡ Ibid. Case following that last cited. See Andral, tom. iii. obs. 9.

§ F. Ribes de l'Anatomie Pathologique, considérée dans ses vrais Rapports avec la Science des Maladies, tom. i. p. 88. Paris, 1828.

|| Dr. Latham mentions two cases, which were supposed to be marked inflammation of the brain; yet this organ was found, after death, perfectly sound in each example, and the heart affected with intense pericarditis. (Med. Gaz., vol. iii. p. 209.) Andral relates a similar case. (Clinique Méd., tom. iii. p. 444.) Cases so anomalous as these Dr. Hope considers rare. The principal symptoms of pericarditis, enumerated by the latter physician, are, acute inflammatory fever; a pungent, burning, lancinating pain in the region of the heart, shooting to the left scapula, shoulder, and upper arm, but rarely descending below the elbow, or even quite to it. The pain is increased by full inspiration, and especially by pressure between the præcordial ribs, and, by forcing the epigastrium upwards, underneath the left hypochondrium; inability of lying on the left side; dry cough; hurried respiration; palpitation of the heart, the impulse of which is sometimes violent, bounding, and regular, though its beats

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SPEC. IX.  
Empresma  
carditis.

Adhesions have  
been detected,

and sometimes  
purulent fluid.

The anasarca and coldness of the lower extremities, in cases recorded by M. Louis, approximate them to other affections of the heart, and make an additional line of division between this disease and those of other organs.\*]

In carditis, adhesions have been occasionally found to a very considerable extent between the heart and pericardium, even where little inconvenience had been felt during life; from which we may, at least, collect, that the extent of motion of these two parts on each other is not very great. A purulent kind of fluid has at times also been detected on the outer surface of the heart, without the slightest appearance of ulceration either of the heart or pericardium; and, as the same sort of secretion has often been traced, without ulceration, in other cavities, Mr. Hewson, as we have already seen, first suspected, and Mr. Hunter afterwards endeavoured to establish, that this fluid is nothing more than coagulable lymph thrown forth from the vasa vasorum, but changed in its nature in consequence of passing through vessels in a state of inflammatory action. And it was this discovery, and the hint thus founded upon it, that gave rise to the doctrine now so generally admitted, and apparently so well sustained, of a distinct secretion of pus, in many cases, without ulceration.†

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may be unequal in strength; at other times its action is feeble, fluttering, and irregular; pulse always frequent, and generally at first full, hard, jerking, and often with a thrill; dyspnœa; a constrained position, any deviation from which brings on a feeling of suffocation; extreme anxiety; constant jactitation, &c. As many of these symptoms attend other complaints, it must be confessed that they would leave the diagnosis obscure. — ED.

\* P. C. Louis, *Mém. Anat. Pathologique*, p. 274. Paris, 1826. The observations on pericarditis in this work are highly important. Dr. Elliotson, in describing a case of dilatation and attenuation of the ventricles, and disease of the aortic valves, as proved by dissection, mentions that the symptoms were, universal dropsy; difficulty of breathing; loud action of the ventricles, and a bellows' sound at the apex of the heart. These things, he says, frequently occur in persons under thirty, and they also generally occur in consequence of pericarditis, and pericarditis as the result or attendant of rheumatism. See *Clin. Lect., Lancet*, 1830-31, p. 488. — ED.

† In the bodies of persons who died of pericarditis, Laennec frequently found the heart softened, and of a very pale colour, which he compared to that of a dead leaf. According to Andral, there is, in such cases, rather a flaccidity of the heart than a true softening of it. (*Anat. Pathol.*, tom. ii. p. 300.) Dr. Elliotson has given some interesting particulars of an instance of pericarditis, joined with hypertrophy of the left ventricle. The symptoms were, dyspnœa; violent and extensive palpitation; beatings of the heart, 160 in a minute; violent pain about this organ, darting to the clavicle and shoulder, and back to the scapula; extreme tenderness on pressure over the heart. The impulse and sound of the heart's action were perceived very extensively over the chest. The sound, which was that of the bellows kind, occurred with the pulse at the wrist, when the heart struck the side. The pulse was often irregular, very small, and at times hardly distinguishable; a symptom alleged by Dr. Elliotson to be common in pericarditis. There was a great and extensive dullness of sound on percussion over the cardiac region, which did not arise in this case from effusion in the pericardium. There was also great cough without expectoration; the legs were anasarcaous, and the belly dropsical. The patient was bled in the arm, cupped freely, and put under the influence of mercury. Some relief followed; yet the heart yielded the same sound, and the signs of hypertrophy and dilatation, and obstruction, as before. As the patient was getting up to take some food, he suddenly expired. On dissection, hypertrophy and dilatation of the left ventricle, and universal adhesions of the pericardium to the heart were noticed, some of which

The causes of carditis are often obscure: where we can trace them, they are, for the most part, those of pneumonitis; and the mode of treatment needs not essentially vary. Dr. Frank gives an interesting case of violent carditis, brought on by terror in a prisoner condemned capitally. The inflammation proved fatal; but, on dissection, was found not to be confined to the heart.

[Inflammation of the heart appears to be a rare affection\*, and, as Laennec remarks, it is consequently very imperfectly known, both in a practical and pathological view. Our author enumerates merely some of the symptoms of pneumonitis, or pleurisy, joined with palpitation, irregularity of pulse, and tendency to fainting. Yet these characters can hardly be received as pathognomonic; because, as Senac observes, they are extremely uncertain; and, with respect to palpitation, although its presence may lead us to suspect that the heart is affected, yet it is probably only a hypothetical opinion, since, in that inflammation which arises from wounds of the heart, palpitation does not occur.† What Corvisart describes as inflammation of the heart, seems to Laennec to have been in reality pericarditis, conjoined with a paleness, and sometimes also with softness of the substance of the heart.‡ Indeed, as Dr. J. Forbes remarks, carditis, properly so called, has been almost universally confounded with pericarditis. He has never seen an unequivocal case of inflammation of the muscular substance of the heart. Yet he has no doubt of its occasional existence, from the statements of Dr. Baillie, and from ulcers and abscesses having been met with in that substance.§

There seems sometimes to be an increase in the action of the vessels of the heart, which, though short of inflammation, is sufficient to give thickness to its walls, and considerable magnitude to its general substance: and hence, a frequent origin of enlargement of the heart. M. Bayle has published an interesting case, which appears to belong to this kind of morbid structure. The patient was a young man of delicate constitution and limited intellect. He was attacked in 1819 with mental derangement; and, in a few months afterwards, seemed to labour under a general oppres-

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Empresina  
carditis.Causes and  
treatment.Walls of the  
heart sometimes  
thickened.

Hypertrophy.

were ancient, others recent. The neighbouring pleura had suffered, and bands were seen between the lungs and pericardium, and lungs and costal pleura. See Clinical Lect., in *Lancet* for 1830-31, p. 427. — Ed.

\* The redness of the substance or lining of the heart, frequently observed in the dissection of bodies more than twenty-four or thirty hours after death, in warm or damp weather, is not an indication of carditis, but merely a change that has followed dissolution. (See Andral, *Anat. Pathol.*, tom. ii. p. 276.) In animals poisoned by the oxy muriate of mercury, the lining of the heart is studded with red spots. — Ed.

† Senac, *Traité du Cœur*, tom. ii. ch. vii.

‡ Laennec on Diseases of the Chest, p. 621.

§ Of universal carditis, with effusion of pus generally throughout the muscular tissue, Dr. Hope believes (*Cyclop. of Pract. Med.*, art. PERICARDITIS), that there is not more than a single instance on record, and that occurred to Dr. Latham. "The whole heart," says Dr. L., "was deeply tinged with dark-coloured blood, and its substance softened; and here and there, upon the section of both ventricles, innumerable small points of pus oozed from among the muscular fibres. This was the result of a most rapid and acute inflammation, in which death took place after an illness of only two days." *Med. Gaz.*, vol. iii. p. 118. Portal and Chicoyneau are alleged, however, in the text (see p. 150.), to have seen proofs of suppuration and gangrene of the heart. — Ed.



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carditis.

sion in every organ, under which he died in a few days. The membranes of the brain were infiltrated and thickened; the heart was twice and a half its natural size; the aorta and pulmonary artery, as well as various other vessels, gave evident proof of a direct inflammatory action.\*

There is often a slow or chronic inflammation subsisting in a portion of the heart, which does not betray itself by any peculiar symptom; for abscesses in the substance of the ventricles, and ulcers on the external surface, are occasionally found after death, without any symptoms of previous inflammation.†

## SPECIES X.

### EMPRESMA PERITONITIS.

#### INFLAMMATION OF THE PERITONÆUM.

PAIN AND TENDERNESS OF THE ABDOMEN, ESPECIALLY ON PRESSURE, OR IN AN ERECT POSTURE; WITH LITTLE AFFECTION OF THE SUBJACENT VISCERA, OR ABDOMINAL WALLS. ‡

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SPEC. X.

THE inflammation may be seated in the peritonæal membrane lining the cavity of the abdomen, or in its extension to the mesentery or omentum. And hence Dr. Cullen has noticed the three first following varieties, [to which modern experience has added a fourth]: —

α Propria.

Proper inflammation of the peritonæum.

The inflammation taking the general range of the peritonæum; pain extreme, often pungent, with little or no relief from stools.

β Omentalis.

With a more sensible swelling

\* Observations d'Artérite. Bibliothèque Médicale. Sept. 1821.

† Morgagni, epist. xxv. art. xvii. Bonet, tom. i. p. 849.

‡ "Pain, tumefaction, and tenderness of the abdomen on pressure, are the most prominent symptoms which characterise this affection during life; and increased vascularity, thickening, effusions of coagulable lymph, of serum, of pus, or blood, are the principal local effects produced by it. These elementary features, accompanied in general with more or less of pyrexia, will exist in different degrees and combinations, in every variety of age, sex, or constitution; modified, however, by circumstances, derived partly from the nature of the cause, and partly from the condition of the patient at the time of the attack. Peritonitis may assume either the acute or chronic form. It may exist as a sporadic disease, or prevail as an epidemic. It either presents itself openly, with a numerous group of well-marked symptoms, or creeps on in a latent state, with scarcely one of its characteristic features. It may be limited in its extent to a small portion of membrane, or spread over a large surface. It may run its course uncombined with any other affection, or be complicated with various diseases. There is no period of life exempt from its attacks, &c.: pursuing the same course, and exhibiting similar effects in all, it yet presents a vast variety of symptoms in individual cases, principally according to the organ whose peritonæal covering is the chief seat of the inflammation." Dr. Macadam, in Cyclop. of Pract. Med., art. PERITONITIS. — ED.

Inflammation of the omentum.	in the region of the omentum.	GEN. VII. SPEC. X.
7 Mesenterica. Mesenteric inflammation.	Pain more deeply seated, and more immediately in the mesenteric region: external tenderness less than in the preceding varieties.	Empresma peritonitis.
8 Chronica. Chronic peritonitis.	Progress slow and insidious; pulse accelerated; little or no tension of the abdomen; sense of pricking, or slight tenderness in the belly; bowels generally costive, sometimes loose.	

It is singular that Dr. Cullen, after distinctly characterising this species in his Nosology, and following it up into three subdivisions, each of which, with him, forms a separate species, as the general disease does a genus, should take no other notice of the entire complaint in any form, except what is expressed in the following laconic remark:—"Among the inflammations of the abdominal region, I have given a place in our Nosology to the peritonitis; comprehending under that title, not only the inflammations affecting the peritonæum lining the cavity of the abdomen, but also those affecting the extensions of this membrane in the omentum and mesentery. It is not, however, proposed to treat of them here, because it is very difficult to say by what symptoms they are always to be known; and further, because, when known, they do not require any remedies besides those of inflammation in general."

Noticed with singular brevity by Cullen:

This remark is by far too sweeping. If the diseases referred to have no specific symptoms by which they can be known, they have no more claim to be admitted into a system of symptomatic nosology, than into a treatise of practice. Dr Cullen is right in assigning them a place in the former; and he is, therefore, necessarily wrong in banishing them from the latter; and the more so, as the treatment ought, in some degree, to vary from that of enteritis, to which his general observation seems chiefly to refer.

and more so than is expedient.

The TRUE PERITONITIS occurs, as we have already observed, as a symptom in PUERPERAL FEVER\*; and, as we have treated of it at some length under that disease, it is the less necessary to be minute in our account at present. Puerperal fever, indeed, is sometimes, though not quite correctly, made a variety of PERITONITIS; for it is a disease of a peculiar kind, produced by peculiar causes, and is only connected with peritonitis as the latter enters as a symptom into its general character, and may hence take the name of *puerperal peritonitis*, to distinguish it from *idiopathic*.

a E. Peritonitis propria.  
How far related to puerperal fever.

[Acute peritonitis generally begins with chills and shiverings, though these are occasionally slight, and sometimes not at all observable. The pulse becomes quick and frequent; the urine is scanty and high-coloured; there is considerable thirst; and the general affection, called fever, ensues. These symptoms are attended from the very beginning with a sense of heat and pain in

Symptoms.

\* From what is stated in the notes upon puerperal fever, the reader will see that peritonitis is not a constant or an essential part of the disorder. — ED.

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α E. Peritonitis propria.

the abdomen; at first, generally confined to one part, though sometimes more diffused. This pain is much increased by pressure\*; or, in other words, there is a great tenderness or soreness of the belly; but it is not accompanied by any inclination to go to stool. The pulse is at least 100 in a minute, and small; yet the tongue is not much altered at first from its natural appearance.

In the course of twenty-four hours, however, the pain and tenderness on pressure increase, so that sometimes even the weight of the bed-clothes becomes intolerable, and the pulse rises to 120 or 130 in a minute. At this time, the tongue begins to be covered with a cream-coloured mucus, and, though it is moist, there is great thirst. A considerable degree of tension and swelling now takes place over the whole abdomen, and the patient finds most relief from pain by remaining motionless upon the back, with the knees in a small degree elevated. Along with these symptoms, you will frequently notice singultus, nausea, and vomiting; at first, of the ordinary contents of the stomach, and afterwards of bile; though such gastric disturbance is still more characteristic of enteritis, and may not always accompany simple peritonæal inflammation. The tension of the belly continues to increase to the sixth, seventh, or eighth day; on one of which days, unless proper measures have been taken to remove the disease, the patient most commonly expires. Previously to death, the pain often suddenly ceases, and the change may be mistaken for amendment; but, if the symptoms be minutely examined, the pulse will be found to be sinking and increasing in rapidity; the patient's strength is also sensibly diminished, the countenance collapses, cold clammy sweats break out, the extremities lose their warmth, and, at length, a laborious respiration manifests the concluding struggle of life.

Prognosis.

A favourable prognosis, however, is to be deduced from a gradual cessation of the pain, especially when it is accompanied by a diminution of tension and soreness, and when, at the same time, the pulse becomes fuller and less frequent, the skin less parched, soft, and moist, the respiration less laborious, and the countenance more open and expressive of ease.

Differences  
from colic and  
enteritis.

Inflammation of the peritonæum may be distinguished from colic by the permanency of the pain, and the frequency of the pulse, as well as by the tenderness on pressure, even before any tension of the abdomen has taken place; and by the absence of any inclination to go to stool, when the pain is severe.† It is not so easily distinguished from inflammation of the bowels, or enteritis. In this latter disease, however, there is obstinate constipation, and frequently vomiting; while the pain is more acute, and not so much aggravated by external pressure.‡ ]

Whence the  
surrounding  
parts but little  
affected;

In the specific definition it is stated, that peritonitis occurs "with little affection of the subjacent viscera or abdominal walls."

\* In order to judge whether the tenderness depends upon a real increase of sensibility, the hand should be laid flat on the centre of the abdomen, and then pressed successively on every part of it. Care should be taken not to make pressure with the ends of the fingers; for this pain may be excited, where there is no disease. *Martinet's Pathology*, by Quain, 3d ed. p. 68.

† "Colic may be distinguished from peritonitis by the absence of fever; the pain being relieved by pressure; the state of the pulse; and the suddenness of the attack." *Dr. McAdam, op. cit. — Ed.*

‡ See Bateman's art. PERITONITIS in Rees's Cyclopædia.



In effect, it often happens that these are not at all influenced, and, whenever they are, it is only secondarily; and hereby peritonitis is sufficiently distinguished from puerperal fever. "If the peritonæum," says Mr. Hunter, "which lines the cavity of the abdomen, inflames, its inflammation does not affect the parietes of the abdomen; or if the peritonæum covering any of the viscera is inflamed, it does not affect the viscera. Thus, the peritonæum shall be universally inflamed, as in the puerperal fever, yet the parietes of the abdomen, and the proper coats of the intestines, shall not be affected: on the other hand, if the parietes of the abdomen, or the proper coats of the intestines are inflamed, the peritonæum shall not be affected." \*

[The researches of Bichat into the tissues of which the various organs consist, confirm Mr. Hunter's opinion, that inflammation of the peritonæum may exist alone, and independent of the subjacent parts. In fact, the organs are composed of several tissues of different natures and structure, and their affections also differ, according as this or that tissue happens to be primarily attacked; and the disorder never fixes on all the three coats of the stomach and bowels at once, but first begins in one of them. When the affection is acute, only a single tissue is generally found altered, the others continuing unchanged. Frequently, when the peritoneal covering of an intestine is acutely inflamed, the mucous membrane is remarkably pale.†

Not only may the peritonæum be inflamed without the subjacent organs being similarly circumstanced, but such inflammation actually has no essential dependence upon or connection with those organs. Hence the view sometimes adopted, of gastritis, enteritis, cystitis, &c. being an inflammation seated exclusively in different portions of the serous membrane connected with the stomach, bowels, bladder, is erroneous, inasmuch as it is supposed that the cases depend upon the corresponding organs. Inflammation of the serous abdominal membrane is never exactly restricted to a single viscus, the surrounding portion of the membrane continuing healthy, but is propagated over a greater or less extent of the peritonæum.‡

Numerous dissections of persons destroyed by peritonitis prove, that the whole or only a part of the peritonæum may be inflamed, without the subjacent organs being concerned. In many instances, the muscular and mucous tissues of the stomach and intestines were found unaffected, even when gangrene had begun to show itself in the peritonæum. In general, the marks of inflammation are stronger, in proportion as the disorder is more advanced and violent. Sometimes the membrane seems as if it were very minutely injected; while, in other cases, as Bichat remarks, the redness is hardly discernible, the blood having escaped by the collateral vessels.

Bayle, Broussais, and others, have seen as consequences of acute peritonitis:—1. Redness, thickening of the serous membrane, and here and there sloughs penetrating into the mucous coat. 2. A

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SPEC. X.

a E. Peritonitis propria.

as explained by Mr. Hunter.

Peritonæum sometimes alone inflamed.

\* On Blood, &amp;c. p. 244.

† Mac Adam in Cyclop. of Pract. Med., art. PERITONITIS.

‡ See Bichat, Anat. Générale; Leçons d'Anat. Pathol. et Dict. des Sciences Méd., art. PÉRITONITE.

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SPEC. X.

α E. Peritonitis propria.

Morbid appearances after death.

solid exudation of unorganised coagulating lymph, in the form of false membranes, uniting the surfaces of the peritonæum. 3. A fluid effusion, sometimes turbid, sometimes limpid or reddish. More or less of a sero-purulent fluid was almost always remarked on the surface of the intestines in various places. Broussais also noticed red coagula on the reddened and thickened peritonæum, unaccompanied with any fluid blood; masses of fibrin, destitute of the colouring particles of the blood; and, lastly, pure blood itself, when the effusion was considerable. Gangrene is a much rarer termination, and, according to Dr. Abercrombie, slight and partial, and always accompanied by a deposition of false membrane. It more frequently occurs, when enteritis coexists with inflammation of the peritonæum.

Most examples of peritonitis terminating favourably, leave after them organised adhesions. In general, little gas is found in the bowels; and it is not to it, therefore, that the great distention of the abdomen, remarked before death, can be ascribed.\* One remarkable effect of inflammation of the peritonæum is, to lessen its transparency, and render it even quite opaque.]

Substance of different organs not equally consenting with their surrounding membranes.

Illustrated.

From what has been said, it appears that the membranous tunics of the different viscera do not, therefore, always hold an equal intimacy of action. And it would be interesting to follow up the discrepancy, and draw a scale of their readiness, or inaptitude, to sympathise with the viscera which they cover. The membranes of the brain, as we have already seen, are so peculiarly disposed to partake of the inflammatory action of the parenchyma, as to render solitary inflammation of the one or of the other a rare occurrence. In the lungs and in the heart, the play of relationship is far less conspicuous, and in the viscera of the abdomen it rarely takes place. And it is owing to this circumstance, that we are able so generally to draw the line between inflammation of the peritonæum and of the intestines, from the pain being much more superficial in the former than in the latter case, and, in many instances, not accompanied with sickness, or any other disturbance of the alvine canal. Portal is too little disposed to admit this distinction, and seems to think, that idiopathic inflammation of the peritonæum is by no means a common disease, and that, when it does exist, its manifestation is far from being clear.† But this is to render a general rule universal, and to sweep away from it the exceptions that chiefly establish its proof.

Objection of Portal.

Causes.

The causes are those of inflammation in general, as cold, resi-

\* Tension and tumefaction of the abdomen are constant and characteristic symptoms of peritonitis. According to Dr. Mac Adam, they do arise in the early stages from a tympanitic distention of the intestines, though, at a later period of the affection, they may be caused by effusion in the peritoneal cavity. In individuals with strong abdominal muscles, the swelling is not very manifest in the early period of the disorder, though the hardness is considerable. *Cyclop. of Pract. Med.*, art. PERITONITIS; Chomel, *Diet. de Méd.* — Ed.

† *Mém. sur la Nature et le Traitement de plusieurs Maladies*, tom. iv. 8vo. Paris, 1819. The most important diagnostic symptom, between peritonitis and enteritis, is, the sensibility of the abdomen to pressure. In peritonitis, pain is excited by a very slight degree of pressure, which would produce little or no inconvenience in enteritis. The action of the diaphragm in full inspiration, or coughing, does not produce so much suffering in enteritis; neither does motion of the body or abdominal muscles. Dr. Mac Adam, *op. cit.* — Ed.

dence in damp situations, the abuse of intoxicating liquors, external injuries, ulceration and rupture of some portion of the alimentary canal, and consequent extravasation of the contents of the stomach or bowels\*; and a morbid transfer of action; and, in a few cases, sympathy with the adjoining organs, as in puerperal fever. [Peritonitis is alleged to be more common in adults than children; in women than in men; and in sanguine and plethoric individuals, than in others. †]

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SPEC. X.  
α E. Peritonitis propria.

The treatment is, in like manner, that of inflammation in general, particularly that of E. ENTERITIS. Bleeding, both general and local, should be carried into effect copiously and with all possible speed; [nor should the practitioner be deterred from the use of the lancet by the seeming prostration of strength and feebleness of the pulse, which are not uncommon symptoms at the very onset of the disease, especially when the peritoneum of the stomach and bowels participates in the inflammation. Under such circumstances, bleeding will be followed by a rise in the pulse, diminution of the general weakness, and subsidence of pain. ‡] But purging, though at all times of service in inflammatory affections, is less imperiously demanded than in inflammation of the intestines; except where the peritonitis is puerperal, and the system affected generally; in which case we have already observed, that calomel should be given liberally at the commencement of the complaint. [It should be understood, however, that the bowels should always be kept open, and that this should be effected with as little irritation as possible. In ordinary cases, castor oil, small doses of sulphate of magnesia, and emollient clysters, are the most proper means for this purpose. §] Warm stimulant fomentations may be advantageously applied to the abdomen, and blisters in succession. [The application of a blister should be deferred till the constitutional effects, produced by the inflammation, are partly removed by bleeding.] After a very free use of leeches, I have found more benefit in applying a large

Treatment.

Bleeding.

Purging.

Blisters.

\* See Abercrombie on Pathology of the Stomach, &c. Edin. Med. Journ., No. lxxviii.; Dr. Crampton and B. Travers in Med.-Chir. Trans., vol. viii.; Lewis in Archives Gén. de Méd. Jan. 1823; also Dr. Stokes in Cyclop. of Pract. Med., art. PERITONITIS, from Perforation of the Serous Membrane.

† Dr. Mac Adam in Cyclop. of Pract. Med. This intelligent physician arranges the causes into the mechanical, the chemical, and the vital. The *mechanical* causes include all injuries inflicted on the abdomen, by falls, blows, wounds, pressure of the gravid uterus, enlarged ovaries, or other morbid growths, extra-uterine conceptions, &c. The *chemical* causes include all extravasations into the peritoneal cavity, not quickly absorbed, whether of blood, urine, bile, chyle, or feces. The *vital* causes comprehend all aberrations of healthy actions, transmission of morbid action from a part previously affected to the peritoneum, or extension of inflammation from a contiguous organ or tissue to this membrane. This arrangement seems judicious and well-founded. — Ed.

‡ See Pemberton on Diseases of the Abdominal Viscera, chap. i.

§ Many judicious practitioners are not afraid, however, of prescribing calomel very freely in peritonitis. Thus, Dr. Mac Adam recommends giving from five to ten grains of calomel, joined with one or two of opium, directly after the local bleeding; and this dose to be followed up by smaller ones every three or four hours. After the second or third dose of calomel, the bowels are to be opened with castor oil and clysters. If vomiting be urgent, Rochelle salts, with the supercarbonate of soda, in a state of effervescence with lemon juice, may be given in repeated doses, so as to produce a moderately laxative effect. Dr. Mac Adam in Cyclop. of Pract. Med., art. PERITONITIS. — Ed.



GEN. VII.  
SPEC. X.  
α E. Peritonitis propria.  
Fomentations.

folded flannel wrung out in simple hot water, or water impregnated with aromatic herbs, over the whole of the abdomen, and letting it remain there for many hours or till dry, wrapped over with a broad calico or flannel swathe that surrounds the entire body. All we can possibly aim at, in applications of this kind, is a continuation of moist warmth, as in a common poultice; and this is obtained more easily, and with infinitely less fatigue to the patient or danger of giving him cold, than in the ordinary way of applying fomentations. When the bowels have been well opened, opiates may be given with freedom, and especially in union with ipecacuan, or antimonials, to determine to the surface.

Treatment.

β E. Peritonitis omentalis.

Does not readily suppurate.

Illustrated from Sauvages.

When the INFLAMMATION commences or is seated IN THE OMENTUM or EPIPLOON, the pain is more limited, and points rather towards the superior and middle region of the abdomen, a little above and below the navel; though it sometimes inclines to the right or left hypochondrium. The peritonæum itself does not readily pass into a secretion of genuine pus; and still less so the omentum, which, where ulceration takes place, generally evinces a foul and sanious secretion. Sauvages gives a striking example of this in a woman, who was at first attacked with an acute lancinating pain in the umbilical region; and had a tumour formed towards the right hypochondrium about the size of a man's fist, which by degrees occupied the whole abdomen. By an application of emollient cataplasms, the pain and general swelling were diminished in the course of three days; but a fluctuation in the abdomen was next detected, like that of an ascites; in consequence of which, a trochar was introduced into both sides of the abdomen, and a putrid ichorous fluid was discharged, which induced the operator to enlarge the opening; when sloughs of the omentum, already separated, came away with an intolerable stench, and with about two pounds of what Sauvages calls ichorous water. But the skill of the surgeon was overpowered by the disease, and the patient fell a victim to it.\*

γ E. Peritonitis mesenterica.

Mostly complicated with other complaints.

Treatment.

The mesentery has but a small degree of sensibility, and hence, as well as from the greater depth of the seat of the disease, MESENTERIC INFLAMMATION is only discoverable by pressure. If the affection be strictly mesenteric, the symptoms are mild and gentle; but this is a rare case, and chiefly occurs when the glands are obstructed, and any accidental irritation is applied to them. Most commonly it is catenated with inflammation of the spleen, liver, or intestines. The chief point of tenderness or pressure is the navel; though in the commencement of the disease the pain seems to shoot upwards from the back; the bowels are often obstinately confined. †

δ E. Peritonitis chronica.  
Symptoms.

The medical treatment will be the same as in HEPATITIS, or SPLENITIS: though bleeding, in general, effects but little benefit.

[It is to Dr. Pemberton, M. Broussais, and Dr. Gregory, that the profession is indebted for the best descriptions of chronic peritonitis. The disease advances very slowly and insidiously, manifesting itself only by occasional superficial pricking pains over the abdomen, without the patient feeling any inclination to go to

\* Nosol. Med., Class III. Ord. III. XVI.

† J. P. Frank, De Cur. Hom. Morb. Epit., tom. ii. p. 188. 8vo. Mannh. 1792.

tool; or, as Broussais says, by a sort of constant sensibility in the abdomen, often not distinguishable but by the touch. The pulse is somewhat accelerated, with considerable thirst, white tongue in the morning, and a pallid doughy countenance. There is no tension of the abdomen, as in the acute species; on the contrary, the skin and abdominal muscles seem to sit loosely upon the peritoneum, which feels like a tight bandage underneath them; or, as Broussais states, the abdomen is slightly swelled, and elastic, which symptom increases towards the evening. The appetite and digestion often remain undisturbed; but, in other instances, there are vomitings, which Broussais suspected to happen chiefly when the peritoneal coat of the stomach was affected. The same writer also speaks of the feeling of a ball moving about in the belly, and tending towards the throat; referred by him to the mass formed by the agglutination of the bowels and thickened mesentery, moveable in the effused fluid.

In time, the bowels become agglutinated together, or fluid is effused, so as to produce dropsy. The symptoms are all equivocal, and not one of them pathognomonic. The disease is sometimes the result of protracted acute peritonitis. Old age; a delicate feeble constitution; occupations confining the abdomen in an habitual state of compression; unhealthy, damp, cold stations, and the rigor of intermittent fever, according to Broussais, are among the chief causes of chronic peritonitis.

By Broussais, chronic inflammation of the peritoneum is regarded as inevitably fatal. The treatment, therefore, in his view, can only be palliative. When any degree of active peritonitis is suspected to prevail, he recommends antiphlogistic remedies, and moderate stimulation of the skin. But when there is no pain, and the symptoms are less marked, he recommends blisters, sudorifics, and the tincture of squills and cantharides, with a nourishing diet. Emetics and purgatives he considers useful only when some incidental complication calls for them.

On the other hand, Dr. Pemberton's treatment consists in the prohibition of animal food and fermented liquors, and keeping the patient strictly on milk and vegetable diet, with small bleedings once or twice a week, generally by leeches or cupping. The bowels are to be kept open with small doses of sulphate of magnesia, or castor oil. Dr. Pemberton differs from Broussais in not regarding chronic peritonitis as totally incapable of cure.\*]

GEN. VII.  
SPEC. X.  
δ E. Peritonitis chronica.

Treatment.

\* Children of a scrofulous habit are subject to one variety of chronic peritonitis, characterised during life by great tenderness of the abdomen on pressure, with occasional paroxysms of acute pain, at first coming on only once or twice a day, but afterwards becoming more frequent, after which the child appears quite lively, and free from indisposition. At first the pain is limited, but afterwards extends over the whole abdomen, which, in the early stages, becomes swollen and tense, but afterwards subsides. The pulse is generally about 100, with some strength and fulness; the tongue clean; appetite irregular, but generally good, and frequently voracious; some thirst; the bowels free, the evacuations unusually large in quantity, and peculiar in appearance, consisting generally of a whitish-cream matter. This state may continue for six weeks, or two months, with progressive emaciation, until diarrhoea, attended with petechiæ, puts a period to the child's life. Dissection exhibits the mesentery, bowels and peritoneum, united together into one mass; the peritoneum thickened, and containing large masses of scrofulous matter; the intestinal mucous membrane perforated by ulcerations, and a few numerous communications between the convolutions of the bowels;

## SPECIES XI.

## EMPRESMA GASTRITIS.

## INFLAMMATION OF THE STOMACH.\*

BURNING PAIN AT THE PIT OF THE STOMACH, INCREASED ON SWALLOWING; REJECTION OF EVERY THING; HICCOUGH; EMACIATION; OPPRESSION AND DEJECTION OF MIND; FEVER A SYNOCHIUS.

GEN. VII.  
SPEC. XI.  
Hypothesis of  
Broussais.

All essential  
fevers forms of  
gastro-enteritis.

This subject  
already ex-  
amined.

Origin of  
Broussais'  
hypothesis.  
The frequency  
of gastritis and  
similar inflam-  
mations at  
Paris as com-  
bined with  
fever.

IF to this species we add the ensuing, or EMPRESMA ENTERITIS, we shall have a general type of fever, according to the doctrine of M. Broussais, and that which is commonly received in the present day throughout France: for we have already observed, that this celebrated teacher regards fevers of all kinds as an inflammatory affection of some part or other of the alimentary canal; or, to give a close copy of his own words, "all the ESSENTIAL fevers of authors," says he, "may be referred to *gastro-enteritis*, simple or complicated; and all the acute examples of this inflammation, in its aggravated form, proceed to stupor, typhomania (*fuligo*), lividity, fetidity, and prostration; and represent what have been called typhus, putrid or adynamic fever, or those in which the irritation of the brain is considerable, whether it amount to inflammation or not, whether it produce delirium, convulsions, &c., or take the name of malignant, nervous, or ataxic fevers." †

Having already entered into the question, whether fever be essentially dependent upon inflammation of any particular organ, as the head, the alimentary canal, the liver, or the pancreas, for all have had their respective advocates, and having pointed out the pathognomonic distinctions between idiopathic fever and organic inflammations, it is not necessary to return to any detailed consideration of this subject. But we ought to add, that there seems more foundation for M. Broussais' opinion in France, than perhaps in any other country; since inflammatory affections of the alimentary canal, in some part or other of its length, or under some modification or other, often indeed accompanied with ulcer-

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and the intestines and abdominal cavity containing matter resembling that which was passed during life by stool. The disease is generally fatal. The treatment recommended by Dr. Gregory, consists of leeches and fomentations in the early stage, followed by purgatives, mercurial alteratives, tonics, chalybeates, and absorbents. Laudanum is the only means of relieving the pain. See Gregory on Scrofulous Inflammation of the Peritonæum, in *Med. Chir. Trans.*, vol. xi. p. 262.; and Dr. Mac Adam in *Cyclop. of Pract. Med.*, art. PERITONITIS.—ED.

\* Gastritis, a term commonly used to express an inflammation of all the tunics of the stomach, with the exception of its serous covering; but, says Dr. Stokes, as it is now generally believed that this diseased action commences in the mucous membrane and glands, the term is employed to designate an inflammation of the internal tunic, which may or may not affect the remaining tissues. See *Cyclop. of Pract. Med.*, art. GASTRITIS.—ED.

† *Examen des Doctrines Médicales et des Systèmes de Nosologie*, &c. Par J. F. V. Broussais, Prof. de Méd. cxxxviii, cxxxix.



ation, appears to be more common in Paris than in any other town or region in Europe, or perhaps in the world. To what cause this is owing has not been very clearly pointed out; the diet is perhaps chiefly concerned; the water has also been denounced; but there are various auxiliaries, which are not so easily detected.

The fact however admits of no question: for the observations of MM. Prost, Petit, Serres, and others concur in proving that by far the greater number of febrile attacks in France, whether sporadic or epidemic, are combined with some modification of gastritis or enteritis, and very generally show symptoms of diarrhœa and dysentery. But that, even in Paris itself, idiopathic fever and inflammation of the alimentary canal are distinct diseases, has been sufficiently established of late by the valuable post-obit examinations of M. Andral: which have been conducted upon a very extensive scale for the express purpose of settling this disputed question. This excellent and indefatigable investigator was selected by M. Lermier, physician to the hospital of La Charité, for the purpose of providing cases and dissections for a valuable system of Clinical Medicine, that has now been in part published. In pursuit of this branch of study, he has been particularly attentive to the state of the alimentary canal through its whole course in patients who have died of fevers of almost every type and modification; and he has found, that although, as already observed, this organ, in some part or other, has often given proof of inflammatory action, yet that, occasionally, there has been no such effect whatever, and very frequently none sufficiently violent or extensive to become the cause of dissolution, or even of any serious evil to the living frame. In thirty-eight individuals, eleven only presented traces of gastric inflammation sufficiently distinct to warrant the opinion, that they had influenced the symptoms observed during life. In thirty persons, red patches, eruptions, or ulcers were found in the small intestine; but in fourteen only did these lesions appear to bear any proportion to the severity of the symptoms. In the great intestine the alterations were more rare, and less vehement, than in any other portion of the canal.

On comparing the lesions observed in the three great divisions of the canal, the following results were obtained:—In five patients, the entire tube was exempt from every lesion of consequence. In seven others, they appeared too inconsiderable to exercise any influence on the state of the disease. And where the affection was more strictly and manifestly inflammatory, the effects were extremely diversified. In some cases were found eruptions of varied form and character, occasionally running into ulceration. In other cases, the mucous membrane was studded with large patches of inflammation, and the subjacent cellular issue was advancing to a gangrenous state. In several instances, the ulcers were detached, and assumed a carbuncular appearance.\*

In most of these examples, there can be no question of the existence of idiopathic gastritis or enteritis: but the simple fact of the existence of numerous instances of fever, and fever too so violent as to prove fatal, without any such accompaniments, together with the certainty, that inflammation and even gangrene of

GES. VII.

SPEC. XI.

Empresma  
gastritis.

The cause not  
accurately  
known.

But the fact  
concurrently  
proved.

But even at  
Paris fever de-  
monstratively  
shown to be  
distinct from  
inflammations  
of the aliment-  
ary canal;  
especially by  
Andral.

Facts relative  
to the question  
ascertained by  
him.

Comparative  
table of pa-  
tients in fever:  
locally affected  
much: little,  
or scarcely at  
all.

Character of  
the inflamma-  
tion diversified.

General result.

\* Andral, Clinique Medicale, tom. i. Paris, 8vo. 1823.

GEN. VII.  
SPEC. XI.  
Empresma  
gastritis.

Fever different  
according to  
the different  
nature of the  
inflammation.

particular parts of the alimentary canal are, in numerous instances, effects instead of causes of fever, are a sufficient ground for regarding fever and inflammation either of this or any other kind as distinct diseases, and prove a complete subversion of Broussais' hypothesis.

Inflammation of the stomach may be either of the adhesive or the erythematic character; the latter is the more common\*; and the species hence offers us two varieties with considerably different symptoms; which are chiefly, indeed, the result of the peculiar nature of the fever that accompanies this inflammation, already stated to be a synochus, or fever commencing with caustic, but terminating in typhous symptoms. For this kind of fever it is not difficult to account. We have often had occasion to state, that the stomach is the common centre of sympathy; it is also an organ of acute sensibility; and it is hence impossible for it to suffer from inflammatory action without suffering severely, and without extending its effects very widely.

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| <p>α Adhæsiva.<br/>Adhesive inflammation<br/>of the stomach.</p> <p>β Erythematica.<br/>Erythematic inflammation<br/>of the stomach.</p> | <p>The pain very acute; the fever violent.</p> <p>With an erythematous blush, extending to and visible in the fauces; pain more moderate; fever less violent; pulse low and quick.</p> |
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General remarks and  
pathology.

Dr. Cullen seems to have been the first writer that distinctly pointed out the nature of these two varieties, which he has unnecessarily advanced to the rank of species, and later writers have justified the expediency of a distinction. This distinction, as already remarked, is produced by the nature of the accompanying fever; and, consequently, in a considerable degree, by the nature of the constitution in which the disease occurs. The fever is perhaps in every instance a synochus, the cause of which we have just stated; but, while in a firm and robust habit the febrile course has, comparatively, but little tendency to pass from the entonic action with which it commences, into a dangerous languor and atony, in relaxed and irritable habits it is apt to run into this stage almost from the first, and the synochus degenerates rapidly into a typhoid character.

General causes.

In both varieties the causes are alike; as external or internal cold suddenly applied in a heated state of the stomach, acrid substances, or excess in eating. The acrid substances, chiefly recorded, are, jalap and other drastic purgatives taken in excess; sulphuric acid; corrosive sublimate; and very large doses of nitre, or quantities swallowed by mistake, as an ounce, or an ounce and a half, of both which we have an example in the *Journal de Médecine*.† It is also said to have sometimes been produced by a severe paroxysm of colicithus‡; and occasionally to have followed *trichosis Plica*, the matted hair of Poland.§ A sudden chill, from swallow-

\* J. P. Frank, *De Cur. Hom. Morb. Epit.*, tom. ii. p. 250.

† Laffize, tom. lxxi. Souville, tom. lxxiii.

‡ Caltschmied. *Pr. de Ægro inflammatione ventriculi demortuo calculis*, &c. Jen. 1757.

§ De la Fontaine, *Chirurg. Méd.*

ing cold water or some other fluid when the body is heated, is a frequent cause: as is also repelled gout, indigestible food, and especially ardent spirits drunk profusely.

The symptoms are sufficiently detailed in the specific definition. Several of them are those of cardialgia; but, in the latter, there is neither fever, nor vomiting. The most decisive signs are a permanent local pain, and general emaciation; and these, as M. Chardel has justly observed \*, increase with the prolongation of the disease, till both become extreme, and even opium will scarcely relieve the former, in whatever quantity administered. † In a few cases, the food is not rejected for several days; and as the bowels are constipated, and the digestion is imperfect, it remains in the stomach, and forms a tumour sensible to the pressure of the hand, which, upon rejection, disappears. The presence of this tumour is peculiarly characteristic of an inflamed state of the pylorus, as its absence is of the same state of the cardia; for, in this last case, the contraction of the cardia renders deglutition extremely difficult, and the food is for the most part rejected without reaching the stomach. ‡ From the close sympathy of the stomach with other organs, the disease has sometimes been accompanied with delirium, and in a few instances with hydrophobia. Where the inflammation is violent, it destroys in a few days. If no fatal symptom occur within the first week, it terminates for the most part favourably. Shiverings and a remission of pain are, as usual, marks of suppuration. §

Of the ADHESIVE VARIETY Mr. Cruikshank has given a good illustration in the case of a young lady who died after two or three days' illness, before which she had been in perfect health. "I was called in," says he, "but she was dead before I got to the house.

GRN. VII.  
SPEC. XI.  
Empresma  
gastritis.  
Diagnostics.

α E. Gastritis  
adhæsiva.  
Illustrated.

\* Monographie des Dégénération schirreuses de l'Estomac. 8vo. Paris, 808.

† General emaciation can only be expected in cases which are chronic, and of longer duration than the acute form of gastritis.— Ed.

‡ Dr. Good does not seem to have been aware, that inflamed muscular fibres are not so much disposed to contract as when they are healthy. This fact, which is distinctly mentioned by Desault, is confirmed by later observations. However, the disease called gastritis is seated chiefly in the mucous membrane, and is extremely rare in the acute and idiopathic form. (See Abercrombie's Pathol. and Pract. Obs. on Diseases of the Stomach, &c. i. p. 13. ed. 2.) This physician confesses that he has never seen a case of this nature (p. 15.). Dr. Stokes also says, inflammation of the stomach in its highest degree is rarely met with, except in cases of corrosive poisoning. From such examples he infers, that the symptoms would be "intolerable thirst, constant nausea and vomiting, præcordial distress, sunk countenance, extraordinary prostration, fever." (Cyclop. of Pract. Med.) It is conceivable, however, that the action of a corrosive poison on the stomach might lead to other consequences than those of simple inflammation: the local effects would be more rapid, more certainly fatal, and the immediate effects on the system different.— Ed.

§ It seems as if the general symptoms, as well as the effects of the inflammation on the stomach itself, were liable to variety. In a case recorded by Mr. Anselmy, in his work on the Diseases of India, the early symptoms were acute pain in the stomach, increased by pressure, with slight fever, and *no vomiting*. On the fourth day vomiting began, and the patient died on the seventh. The coats of the stomach were found thickened, and its internal surface minutely injected. And, in another instance related by the same gentleman, and which was fatal in seven days, the symptoms were, incessant vomiting and hicough, with fever of a typhoid type, but no complaint of pain. The mucous coat was covered with small ulcers.— Ed.



GEN. VII.  
SPEC. XI.  
a E. Gastritis  
adhesiva.

Inflammation  
often chronic  
and slow.

Progress or  
this modifi-  
cation.

From her history I was at a loss to account for her death; but, on opening the abdomen a day or two after, I found the contents of the stomach in that cavity; that they had produced peritonæal inflammation, and killed. On examining the stomach, I found a hole in it large enough to admit the end of my finger. This hole had been formed by absorption of part of the substance of the stomach from scrofulous ulceration: its edges had adhered by inflammation to the under surface of the small lobe of the liver. This inflammation was evidently raised by the powers of the body to prevent the accident which happened: and if no violent vomiting had taken place, and torn this adhesion at this particular time, she might have lived for years, notwithstanding the ulcer."\*

In many cases of this kind, the inflammation is chronic, and indeed of long standing; for the diseased parts of the stomach exhibit great thickening and induration. Where the inflammatory action proceeds very slowly, it is often astonishing to find how little the general health, or even the local state of the stomach is disturbed. For, as in the case before us, it proceeds without being suspected, till the ulcer is complete, the external tunie gives way, and the contents of the stomach are evacuated; which irritate, as a foreign body, in whatever situation they are lodged, excite a new and active inflammation, and destroy in a few days. This indeed is the usual termination, whatever be the progress. Yet the march of the disease is not always thus quiet or deceitful; for it is often preceded by many or all the ordinary concomitants of dyspepsy, as acidity, eructations, flatulency, and oppression of the stomach after eating; often indeed accompanied with emaciation and debility, and not unfrequently with hæmatemesis; by which last signs it is chiefly to be distinguished from idiopathic indigestion. The death, however, is commonly sudden, within a day or two, or even a few hours, from the cause just stated. M. Chardel† has given various examples of this form: M. Gerard‡ and Dr. Abercrombie§ others.

[It is observed by the latter writer, that acute inflammation of the stomach is not a common disease in this country; and when it does occur, the symptoms are so severe and well defined, as immediately to indicate the nature of the affection. || But the stomach is liable to inflammatory action in a chronic form, which often advances so slowly and insidiously, that the dangerous nature of it may be overlooked, until it reaches that stage in which it assumes

\* Anatomy of the Absorbent Vessels, p. 122.

† Monographie des Dégénération scirrheuses de l'Estomac. 8vo. Paris, 1808.

‡ Des Perforations spontanées de l'Estomac.

§ Edin. Med. and Surg. Journ., vol. xxi. p. 1.

|| Acute idiopathic inflammation of the mucous coat is a rare disease in this country. As Dr. Abercrombie observes, it is from the action of poisons that we chiefly meet with inflammation of that coat of the stomach; but such cases cannot be regarded as necessarily exhibiting the same symptoms which would accompany the idiopathic form of the disorder. (On Dis. of the Stomach, &c. p. 13.) In fact, we know that each poison is productive of symptoms peculiar to itself, and hence, in this point of view, our author's definition cannot but be imperfect. According to my own judgment, it would have been more consistent with the plan of this system to have treated here only of idiopathic gastritis.

— Ed.

the characters of organic and hopeless disease. In the early stage, the prominent symptoms, in fact, merely indicate derangement of the functions of the stomach, and are consequently very apt to be included under the general term dyspepsia.]

Gastritis in its ACUTE form has often been represented in a more dangerous light than it deserves to be; for, in neither variety, under this modification, is it frequently attended with fatal effects under judicious treatment. In the true adhesive form, copious and repeated venesections have been very generally recommended, and have often been found of the highest advantage, particularly in robust and vigorous habits.\* To be, however, of any decided avail, this plan of treatment should be commenced early; for the fever is so apt to pass into a typhoid form, that, after the first two or three days, too much inroad will generally have been made upon the constitutional strength to allow the use of the lancet. If acrid poisons or excess of eating be the cause, an emetic should be administered; but otherwise this, as well as all other stimulants, should be avoided. Gentle cooling laxatives †, a blister applied after bleeding to the pit of the stomach, mild nutritive drinks (Dr. Stokes particularly recommends cold ones, such as iced water, iced lemonade, &c.), nutritious injections, and, if the pain or sickness be extreme, doses of a drachm of the syrup of white poppies, and perhaps about five grains of nitre in an emulsion of gum arabic or spermaceti, will generally be found the most successful plan. It is, however, extremely difficult to get any medicine to remain on the stomach; and hence the best preparation is that of pills. [In idiopathic inflammation of the internal surface of the stomach, or when that surface becomes inflamed in the progress of dysentery, gout, or other diseases, Dr. Cheyne has often directed entire abstinence from medicine of every description, and from fluids even of the blandest nature, until the inflammation has been removed by bleeding, blistering, fomentations, &c. The inflamed stomach, he observes, is often incapable of retaining even a spoonful of water, and, at first, every description of medicine produces an aggravation of sickness, vomiting, and general distress. After one or two days, calomel, in doses of one grain, may be repeated every hour, or four or five grains and half a grain of opium given every third or fourth hour, alternating these medicines with a solution of Rochelle salts, and soda, to which lemon juice may be added. But before these remedies be employed, he particularly enjoins a previous reduction of the inflammation. ‡] If gangrene take place, all further exertion will be in vain: and we may determine its presence by a sudden cessation of pain, coldness about the præcordia, and languid or intermitting pulse, which are its sure attendants. Under the chronic form we have just noticed, Dr. Abercrombie

GEN. VII.  
SPEC. XI.  
α E. Gastritis  
adhæsiva.

Remedial  
process.

\* In a weak subject, or where an acute attack supervenes on a chronic gastritis, Dr. Stokes deems general bleeding almost inadmissible. "The great remedy," says he, "is the application of leeches to the epigastrium, which should be done freely and repeatedly, until decided relief be obtained." Cyclop. of Pract. Med., art. GASTRITIS. — ED.

† "The bowels, which are commonly confined," says Dr. Stokes, "are to be relieved by enemata; but on no account is purgative medicine to be given by the mouth."

‡ See Dublin Hospital Reports, vol. iv. p. 256.

GEN. VII.  
SPEC. XI.  
α E. Gastritis  
adhæsiva.

has found sulphate of iron, in the proportion of two or three grains three times a day, a valuable and decisive remedy, and it is well entitled to attention. \* [The utility of leeches and counter-irritation on the epigastrium, with a strict regimen, is universally acknowledged, and the superior success of this practice, in the cure of many cases of dyspepsia from chronic gastritis, is a fact attested by all the most judicious practitioners.]

β E. Gastritis  
erythematica.  
Explained by  
Mr. Hunter.

Upon the ERYTHEMATIC VARIETY the following remarks of Mr. Hunter are too valuable to be omitted; and they are the more valuable as they apply to disorders of other internal cavities besides the stomach. "There is," says he, "an inflammation which attacks internal canals, which is classed with the erysipelatous; but how far it is the same I do not know. It is certainly not the suppurative. Whatever it is, it may be considered in some of its effects to be in direct opposition to the adhesive and suppurative inflammations: for where the adhesive most readily produces adhesions, there the erysipelatous does not, as in the common cellular membrane; and where the adhesive seldom takes place, excepting from extreme violence, there this inflammation (if erysipelatous) has a tendency to produce adhesions, as in canals or outlets. It also opposes, in some degree, the suppurative, in being backward in producing suppuration, even in those places where suppuration most readily takes place, such as canals and outlets: for there, as above observed, it more readily throws out the coagulating lymph. Whatever the inflammation may be, it is certainly attended with nearly the same kind of constitutional affection. The fever in both appears to be the same, viz. accompanied with debility, languor, &c." †

Diagnostics.

The erythematic inflammation of the stomach comes on more insidiously than the adhesive; and is best characterised by the inflammatory colour of the fauces, for it usually spreads to these, and the slowness and rapidity of the pulse. The inflammation often extends through a great part of the alvine canal, as well as the œsophagus; and, after a subsidence of the sickness, produces diarrhœa, and mucous discharges from the bowels. It is sometimes so gradual and tardy in its progress, as to produce little fever, or even local disturbance, for many days or even weeks.

Remedial  
process.

If this variety of gastritis be excited by acrid or poisonous substances, the stomach-pump should be used, or a brisk emetic be exhibited with as much speed as possible; and afterwards such antidote as the character of the poison may point out: opposing acids to alkalines, and alkalines to acid erosives, and the most active stimulants to narcotics. When the cause is internal, mild, diluent, and cooling drinks are to be employed freely. The infusion of roses will often prove one of the most serviceable medicines we can make use of; blisters should be applied and repeated, and the bowels kept open with laxative clysters.

Inflammation of the stomach is also found, in the one or the other of its varieties, as an occasional symptom in aphtha, measles, small-pox, and other exanthems; tetanus; and hydrophobia.

Inflammation  
of the pancreas.

We may here observe, that the PANCREAS is also sometimes, though rarely, affected with inflammatory action; and that, in this case, the symptoms are a combination of Empresma gastritis and

\* Ut suprâ.

† On Blood, &c. p. 270.



E. hepatitis. There is pain and distention in the epigastrium, with frequent vomiting. There is also a defined tumour, seated higher than the liver, and generally more polarised, but always accompanied with some degree of jaundice, from its pressure on the bile-ducts. The affection often yields to depletion by cupping, brisk purgatives, and blistering.\*

GEN. VII.  
SPEC. XI.  
§ E. Gastritis  
erythematica.

## SPECIES XII.

### EMPRESMA ENTERITIS.

#### INFLAMMATION OF THE BOWELS.

GRIPING PAIN IN THE BELLY; TENDERNESSE, AND VOMITING;  
FEVER A SYNOCHUS.

In inflammation of the stomach, the pain is seated higher, and is rather burning than griping; this last, also, has usually some degree of hiccough, and great dejection of mind: neither of which belongs to inflammation of the intestines; and it is by these characters that the two are to be distinguished from each other. Stoll adds, that intestinal inflammation is also accompanied with a suppression of urine; but we cannot rely upon this as a specific symptom.

GEN. VII.  
SPEC. XII.

How distinguished from  
gastritis.

Our opening remarks upon gastritis, in respect to the nature of that disease in France, apply to the present as well. Enteritis, also, exhibits two varieties:—

- |   |   |
|---|---|
| α Adhesiva.                             | Pain very acute; fever violent;                                 |
| Adhesive inflammation of the bowels.    | vomiting frequent; and costiveness obstinate.                   |
| β Erythematica.                         | Pain more moderate; fever less                                  |
| Erythematic inflammation of the bowels. | violent; little vomiting; and diarrhœa, instead of costiveness. |

Of these varieties, the former is more frequent in this species, as the latter is in the preceding. †

The causes of both, as also of the accompanying fever being a synochus, may be understood from the remarks already offered upon gastritis: the intestines partaking in a very considerable degree of the character of the stomach.

Why accompanied by a  
synochus.

[Medical writers do not always agree respecting the meaning of the term *enteritis*. Some imply by it an inflammation of the several tunics which form the intestinal canal; while others signify an inflammation of the mucous membrane that invests the bowels from the pylorus to the anus. The inflammation, however, some-

Different  
significations  
of the term  
*enteritis*.

\* Perceval, in Trans. King's and Queen's College, Dublin, vol. ii. p. 124. 1821. To all who desire a correct knowledge of affections of the mucous membrane of the stomach, the editor strongly recommends the Memoir by M. Louis, entitled "Du Ramollissement, &c. de la Membrane muqueuse de l'Estomac." Mém. Anat. Pathol. Paris, 1826.

† Frank, ut supra, tom. ii. § cccxxviii. p. 250.

GEN. VII.  
SPEC. XII.  
Empresma  
enteritis.

General causes.

times extends from the mucous coat to the others, so as to affect the whole thickness of the intestines. The inflammation may also be either acute or chronic.\* ]

To the causes enumerated under gastritis, may be added some natural or accidental organic mischief in some part or other of the intestinal canal, as ventral, inguinal, or other hernias, or intussusceptions of various kinds; or infarctions from coprostasis, scybala, or enterolithus. The plicæ polonicae, or matted hair, is said, by De la Fontaine, to be a cause of this species, as other writers affirm it to be of gastritis.

Description.

The progress of the FIRST VARIETY usually commences with a sense of coldness or shivering, and an uneasiness in some part of the belly, at first remitting or intermitting, but gradually acquiring permanency, and rising into an acute pain. The pain now spreads over the whole abdomen, which is tense and tender to the touch, though less so than in peritonitis; there is great flatulency, accompanied with occasional spasms that shoot backward to the loins, usually obstinate costiveness, and unconquerable vomiting, though sometimes diarrhœa and tenesmus. The pulse is small, hard, and frequent, but has sometimes been soft; the tongue dry; thirst extreme; urine high coloured, small in quantity, and discharged with difficulty; the breathing is laborious; and, from the contraction of the abdominal muscles, the patient is perpetually bending forward.† If no beneficial change take place, all these symptoms become aggravated; instead of feculent stools, there is an ineffectual straining, with a small mucous discharge; and, with the increase of the retching, the feces burst through the valve of the colon, and are occasionally thrown up from the stomach. At length, the torture suddenly diminishes, and the patient appears to have obtained relief; but his pulse intermits, his face grows pale, his extremities cold, convulsions succeed, and he sinks in death.‡

\* See Dict. des Sciences Méd., tom. xii. p. 359.

† *Περὶ Νοσῶν*, iii. p. 491.

‡ Inflammation seems to destroy the action of the muscular fibre. Thus, intestine which has been highly inflamed, is generally found in a state of great distension, showing the complete loss of its healthy muscular action; and, if the disease has gone on, until the intestine has either become ruptured or has given way by ulceration, it is found to have fallen together like an empty bag; whereas healthy intestine, when it is empty, contracts uniformly into a round cord. When we find gangrene, we have reason, in general, to conclude, that inflammation has existed in the muscular coat; but each of the coats may be inflamed separately, and give rise to important differences in the symptoms. (See J. Abercrombie's *Pathol. and Pract. Researches on Dis. of the Stomach, &c.* p. 7. ed. 2. Edin. 1830.) The following are the general symptoms of inflammatory affections of the digestive tube, as described by Dr. Stokes:—Indigestion; anorexia; vomiting; thirst; jaundice; tympanitis; constipation; alteration of the fecal discharges in quality, or quantity; pain; tenderness on pressure; contraction of the features; morbid state of the tongue; dryness of the skin, and conjunctiva; suppression of the urine; stupor; delirium; headach; prostration; accelerated and thoracic respiration; fever. “We shall find,” says he, “that the greatest variety in the combinations of these symptoms may occur, principally arising from the following circumstances: the intensity and extent of the inflammation; the situation of the disease, both as to the different parts and tissues of the tube; the complications with other diseases; the different degree of excitability of the nervous system in different individuals. Thus, when the inflammation is extensive and severe, occupying both the stomach and intestines, we may have the worst forms of bilious and gastric fevers; when it occupies the duodenum, jaundice is a common symptom; and the disease may occur with or without fever: in the

The general termination, therefore, when unfortunate, is that of gangrene; for it is rarely that the inflammation runs into a suppurative state. If, in the course of the first two, three, or even four days, a free feculent discharge can be procured from the bowels, the vomiting and pains will gradually diminish, the pulse abate in quickness, and the patient be in the way of recovery.

In treating this complaint, it is hence of the utmost importance to procure free evacuations, for the cure depends almost entirely upon our success in this respect. Yet the difficulty is often very great, and increased from the tendency of the stomach to reject whatever medicines are introduced into it. Most practitioners commence with bleeding, which they urge very copiously, and repeat, every six or eight hours, according as the pulse will bear the lancet. The remarks we have made upon this practice, under GASTRITIS, will apply to the present species. If the disease occur in a patient of a hardy and vigorous habit, and particularly if we have an opportunity of employing venesection within the first day or two, we shall commonly find it of essential service: but, if we do not succeed, we shall assuredly hasten the stage of gangrene, and abbreviate the term of remedial operations. And hence, unless free bleeding can be employed early, and the constitution evinces a tolerable portion of vigour, there is no inflammation in which the lancet is less likely to be serviceable, or may become more mischievous. To local bleeding, even under the conditions we are now supposing, there is less objection; but we have less chance of benefit from it than in peritonitis.\*

From the first, therefore, we must attempt cathartics. If the stomach will retain the milder, as castor oil, neutral salts, or senna,

GEN. VII.  
SPEC. XII.  
a E. Enteritis  
adhæsiva.  
Prognostics.

Curative plan.

Venesection  
how far useful.

In what cases  
mischievous.

Cathartics mild  
rather than  
harsh, if of  
sufficient  
power.

small intestine, a slight inflammation is often nearly latent, or only pointed out by a little swelling or pain; while in the cæcum, or colon, the disease produces all the varieties of diarrhoea and dysentery. When the upper portion of the tube is engaged, constipation is a common symptom; when the lower, the reverse takes place. If the mucous membrane alone is engaged, pain and costiveness are often absent; but, when all the coats are in a state of acute irritation, we may find the most violent symptoms of peritonitis and ileus, with contractions, intususeptions, &c. The complication of the disease with other affections also produces great varieties. Thus, when it occurs in the advanced stages of phthisis, diarrhoea is often the only symptom; or, when complicated with erysipelas, or pneumonia, its most prominent indication is an extraordinary prostration. The different degrees of excitability of the nervous system, cause the greatest irregularity of symptoms: in the child, acute enteritis is commonly mistaken for inflammation of the brain; in the adult, a circumscribed irritation will in one case be accompanied by violent delirium, while, in another more severe, this symptom shall be completely absent."—ED.

\* Modern practitioners speak more decidedly in praise of bleeding than our author has done. Thus, Dr. Stokes gives it as his advice, that the lancet should never be neglected; and that, if the violence of the disease continue unsubdued, venesection should be frequently repeated. After the first bleeding, Dr. Abercrombie recommends smaller quantities of blood to be taken away. The great efficacy of general bleeding alone in reducing inflammation of the mucous membrane is considered, however, by Dr. Stokes, to be a well-established fact; but, when the disease has been in the small intestine, he has always found the greatest advantage from local bleeding. If the symptoms do not yield at once to this treatment, the leeches are to be repeated, and a large poultice applied over the belly. The bowels are to be gently opened by the mildest laxatives, and emollient injections should be frequently given. *Cyclop. of Pract. Med., art. ENTERITIS.* — ED.



GEN. VII.  
SPEC. XII.  
a E. Enteritis  
adhæsiva.

these are by far the most advisable; as our object should be to diminish, instead of increasing, the irritation of the intestines. But, in the first species, this is rarely the case; and we must hence, without loss of time, apply to those that are more active; as calomel in combination with the colocynth pill; assisting their operation by injections frequently repeated, and in as large quantity as the bowels will retain.

But active purgatives not necessarily augmentive of inflammation.  
Explained.

It does not necessarily follow, that the irritation of these more active purgatives will add to the inflammatory irritation; nor do we always, or even commonly, find any such effect. For, firstly, the operation of the two irritations is very different; and, by exciting the former, we may even diminish or take off the latter by a transfer of action, in the same manner as we take off inflammation from any other organ by the application of a blister to some neighbouring part. Secondly, the direct effect of the cathartic is to restore a natural action, the peristaltic action of the intestines, which it is the direct effect of the inflammatory action to oppose. And, thirdly, we find, in fact, the beneficial influence of such a practice, not only generally, but almost uniformly, and are incapable of accounting for it upon any other principle.

Opiates when to be given.

Opiates would be desirable through the whole course of this disease, but that, in their general intention, they add to the costiveness if given alone, and retard the effect of purgatives if given in conjunction with them. Nevertheless, if, after copious bleeding, the costiveness should be intractable, and the flatulency and spasmodic pains very distressing, it will be better to trust for a few hours to two or three grains of opium alone, and withhold the purgative plan for the present. [Opium is frequently useful in quieting the sickness, and in enabling the stomach to retain laxative medicines.] Dr. Baillie recommends, as a general rule, "the inflammation to be subdued, or at least much lessened, before any active purgative be administered."\* But we have already stated the principle on which purging and bleeding may be combined from the first in ordinary cases.

[The editor's experience leads him to place more reliance on early and free bleeding, and less on premature purging, than the author. The excessive constipation of the bowels is in general merely an effect of the inflammation, and is often attacked with active purgative medicines, as if it were the primary object, and the source of all mischief. The inflammation is to be subdued by blood-letting from a large orifice to an extent which must be various, and repeated or not, according to the constitution of the patient, and the violence of the symptoms. Purgatives given by the mouth are not generally successful, when the inflammation has not been previously checked by local and general bleeding and blistering. Dr. Gregory used to remark, in his lectures, that a purgative had often been known to operate as soon as a blister applied to the belly began to rise; and this observation is still more commonly verified after free venesection.†]

\* Lectures and Obs. on Medicine. By the late M. Baillie, M.D. 1825.

† Bateman on Enteritis, in Rees's Cyclopædia. Also Edin. Med. Surg. Journ., vol. i. p. 64. When enteritis is joined with diarrhoea, the warm bath, leeches, a blister, anodyne injections, and small doses of the pulv. ipecac. comp., with or without rhubarb, are some of the remedies commonly resorted to. In the early stage, astringents are pernicious.—ED.

Fomentations and blisters to the abdomen form a regular course of the therapeutic plan, and have, no doubt, been occasionally serviceable; but, like local bleeding, they are less so in the present disease than in peritonitis. And, where fomentations are advisable, I prefer the epithem of a folded flannel wrung out in hot water, and confined with a swathe, as already recommended in peritoneal inflammation, to all other fomentations whatever.

Injections of warm water alone forcibly thrown up the rectum in as large a quantity as the bowels can be made to contain, are more-over often found of essential benefit, and are generally to be preferred to the warm bath, which, by adding to the debility, has accelerated the approach of gangrene.

After the bowels have been freely emptied, diaphoretics, and especially combined with opiates, will be the best plan we can pursue; and, if the stomach become quiescent, the patient should drink freely of diluents.\*

There is a singular fact, noticed by Rhodius†, which sometimes occurs in this disease, and is peculiarly worthy of notice, as sustaining our hopes to the last: and it is this; that occasionally, in the extreme moment of a seeming mortification, a sudden revolution takes place, and stools are evacuated; and this, too, after the extremities have begun to grow cold, and an apparently deadly languor has overpowered the frame. In such case, we must snatch the patient from impending death by a free use of wine, and warm generous cordials; closely attending, at the same time, to a copious discharge from the bowels, of which, with the liberal plan now recommended, we need not be afraid, and which we should be extremely cautious of checking by opiates.

From the less threatening character of the symptoms, as they show themselves in the ERYTHEMATIC VARIETY, this affection often exhibits a fallacious appearance, and is misunderstood. "Sæpè," says Professor Frank, "nec febris in pulsibus umbra; ardor, dolor, ad intestina aut nullus, aut certè non vehemens; nec ferè ulla tam diri morbi phænomena observantur."‡ Its real nature, however, is as we have explained it above: and, from the debility superinduced, ascites has occasionally followed rapidly. It has been well ascertained, that the seat of this variety is sometimes in the external coat of the intestines, and it is said, by some writers, that this is the most common seat. It is not easy to determine upon this point: nor always, at its commencement, whether

GEN. VII.

SPEC. XII.

a E. Enteritis adhesiva.

Fomementation, blisters, and epithems.

Copious injections of warm-water.

Singular rally of the constitution when apparently sinking.

How in such case to be assisted.

b E. Enteritis erythematica.

\* For allaying the vomiting, the common practice has been to give effervescing draughts of the carbonate of soda or ammonia, with or without a few drops of the tinct. hyosciann to each draught; the region of the stomach being sometimes fomented with the decoction of poppy-heads. Dr. Stokes has found nothing so efficacious as the application of a dozen leeches to the epigastrium, and the liberal use of iced water, or even ice, which may be given *ad libitum*. In the more advanced stages of the disease, he has constantly applied leeches to the epigastrium, though in smaller number, and has seen what has been called the typhoid state disappear after their use. He has also applied a small blister to the epigastrium, and afterwards sprinkled the surface with a little of the acetate of morphia, according to the plan suggested by M. Lambert in tetanus, hydrophobia, and some other cases, where the patient may not be able to swallow medicine at all. See *Leçons Orales de Clinique Chir., faites par M. le Baron Dupuytren*, tom. ii. p. 603, 8vo. Paris, 1832. — Lib.

† Cent. ii. obs. 69.

‡ De Cur. Hæm. Morb., tom. ii. p. 251.

GEN. VII.  
SPEC. XII.  
Æ E. Enteritis  
erythematica.

The two  
varieties not  
always to be  
distinguished  
at first.

Pain often im-  
perceptible.

Broussais.

Petit.

Andral.

Comparative  
view of lesion  
in different  
parts of the  
alimentary  
canal.

Reduced to a  
table.

the inflammation be of the one variety or of the other; the modifying causes being, in some constitutions, and some seasons of the year and temperaments of the atmosphere, so nicely balanced as to leave the course doubtful.

In distinct and simple examples of erythematic inflammation, bleeding ought, unquestionably, to be abstained from; and acids, and the milder tonics, and bitters, as infusion of roses, cascarilla bark, and cinchona, supply its place.

We have said, that in enteritis there is less pain and tension to the touch than in peritonitis. It is singular, that at times there should be little or none whatever on pressing the abdomen. "Gastro-enteritis," observes M. Broussais, "exists without any painful point, when the inflammation is not vehement in the stomach and duodenum; and pressure of the belly does not produce uneasiness."\* M. Petit speaks nearly to the same effect, though he modifies the opinion; affirming, "that, if the belly be pressed a little deeply at its lower part, especially toward the right between the spine of the ilium and the navel, the patient is sensible of pain, and at times makes complaint of the pressure, and exhibits the same by his countenance."† Yet, even in ulcerations of the mucous membrane, there is not always much uneasiness. "Nothing," says M. Andral, "is more common than an absence of every kind of pain in cases in which numerous ulcerated spots cover the inner surface either of the ileum, or of the cæcum, or of the colon; while we frequently see patients complaining of sharp abdominal pains, where the gastro-enteric mucous membrane is not inflamed."‡

The last of these writers has lately favoured the world with a valuable and extensive range of examinations into the state of the alimentary canal in patients who have died of gastritis and enteritis; and we are hence enabled to arrive at some calculation of the comparative frequency of inflammatory action in different parts of the canal. Ulcerations, he observes, may take place in every part, from the cardiac orifice to the anus; but they are not in all places equally common. They are rare in the stomach, and still more rare in the duodenum and jejunum: they are very frequent in the lower third of the small intestine; and they are again less frequent in the different parts of the great intestine. These conclusions are drawn from the following table, comprising seventy-one distinct cases of disease:—

In 10 individuals ulcerations were found in the	
1	duodenum.
9	jejunum.
38	lower part of ileum.
15	cæcum.
4	ascending colon.
11	transverse colon.
3	descending colon.
1	rectum. §

Singular cause  
of production.

I have said that enteritis is sometimes a result of hernias. It has also, occasionally, been produced by a forcible protrusion of a

\* Examen des Doctrines Médicales et des Systèmes de Nosologie, prop. cxxxvi. Par F. J. V. Broussais.

† Traité de la Fièvre Entero-Mésentérique, &c. p. 131.

‡ Andral, Clinique Médicale, tom. i. 8vo. Paris, 1823.

§ Andral, ut suprâ.



part of the intestinal canal through the anus; of which a singular instance is given in the Medical Transactions, vol. iv., in a paper communicated by Dr. Latham. The part of the prolapsed intestine was very considerable, and the injury was occasioned by the passage of the wheel of a cart over the loins; a portion of the mesentery was protruded with that of the gut; gangrene supervened to the inflammation, and the prolapsed mesentery and intestine were cut off above the line of gangrene; the latter to a length of not less than fifty-seven inches. The patient, who was a boy, recovered; had motions regularly from the truncated extremity of the remaining intestine; and was able afterwards to walk twelve or fourteen miles a day. He had no power, however, of retaining his feces.\*

GEN. VII.  
SPEC. XII.  
E. Enteritis  
erythematica.

### SPECIES XIII.

## EMPRESMA HEPATITIS.

### INFLAMMATION OF THE LIVER.

TENSION, SORENESS, AND PAIN IN THE REGION OF THE LIVER;  
PAIN ABOUT THE RIGHT SHOULDER; FELT ESPECIALLY  
WHEN LYING ON THE LEFT SIDE; SHORT, DRY COUGH.

INFLAMMATION of the liver, which may in general be sufficiently known by the above characters, has also two varieties, dependent upon its more rapid and violent, or more tardy and obscure march.

GEN. VII.  
SPEC. XIII.

#### α Acuta.

Acute inflammation of  
the liver.

In which the above symptoms are  
clearly marked, and the character  
of the disease is decisive.

\* Enteritis, a formidable disease in its idiopathic form, is also found to supervene in the course of other affection. Thus, it is daily noticed as a complication of fever. From what has been stated in a previous part of this work, however, when it occurs in typhus, it is not the cause, but simply a consequence of that fever; though, as Dr. Stokes has justly said, it is not the less important with reference to the prognosis and treatment. Compared with other affections, both acute and chronic, the frequency of intestinal disease must strike every observer. Andral declares, that, in the great majority of diseases of other parts, a derangement either in the functions or structure of the intestinal canal will occur; and that, in chronic diseases, whatever be their nature, it is extremely rare for the digestive tube to escape alteration. (See Cyclop. of Pract. Med., art. ENTERITIS.) In this country, where it is so usual to attribute many complaints to affections of the liver, it is, as Dr. Stokes observes, of great importance that the relation of cause and effect between irritations of the upper part of the intestinal tube, and derangements of the hepatic function, should be carefully studied. "It is true, that gastro-duodenitis may exist without jaundice, or that hepatic inflammation may arise independent of disease in the mucous membrane; but, it is equally true, that the symptoms of gastro-duodenitis, both acute and chronic, are those commonly received as indicative of hepatic disease; and that this last affection may commence by inflammation in the digestive tube." If any doubt exists as to the diagnosis, Dr. Stokes considers it better to give the patient the advantage of that doubt, and to treat him for gastro-duodenitis, before we have recourse to the hazardous plans usually recommended for hepatic disease. The reader will find much valuable information on the subject of enteritis, in Dr. Stokes's Observations. — ED.

GEN. VII.  
SPEC. XIII.

β Chronica.  
Chronic inflammation  
of the liver.

In which the specific character is obscure; and the existence of the disease suspected from a previous exposure to its causes, in connexion with an occasional recurrence of the pathognomonic symptoms, accompanied with a slight degree of fever.

Sometimes an  
hereditary  
affection.

Next to the lungs and the brain, no organ more frequently has an hereditary predisposition to disease than the liver; and Frank has witnessed families suffering in consequence of it, as well in the acute as in the chronic form of inflammation.\*

α E. Hepatitis  
acuta.

The ACUTE VARIETY commences with the ordinary symptoms of visceral inflammation; chilliness, succeeded by heat, frequent pulse, and a furred tongue: the bowels are irregular, mostly costive; the evacuations little tinged with bile, the urine often saffron-coloured; the skin is dry, the thirst extreme, with occasional sickness.

General  
remarks.

No physiologist has yet been able to explain the cause of the pain so generally felt in the right shoulder. It is, however, sympathetic of other affections of the liver, as jaundice, or chololithus, as well as of hepatitis; and hence it should seem to be produced by almost any morbid excitement of this organ, whether from inflammation, or the obstruction of gall-stones. [In several cases of hepatitis, reported by M. Louis, and the nature of which was verified by dissection, there was no pain in the right shoulder. Hence, this distinguished pathologist is disposed to doubt, whether it be a symptom truly appertaining to the complaint, and suspects that, perhaps, when it does occur, the hepatitis is complicated with disease of the right lung, or pleura.†] The cough, which is often very distressing, is easily accounted for from the vicinity of the diaphragm to the seat of disease, and its sympathy with the liver. The sickness of the stomach is from the same cause.

Not always ac-  
companied with  
a jaundiced  
skin:

The disease is sometimes accompanied with a jaundiced colour of the skin, and Sauvages and Sagar have made such a colour a specific symptom; but it is not always that the bile regurgitates, and, hence, such an appearance ought not to be enumerated among the pathognomonic characters.

which is also  
common to  
other affec-  
tions.

Even where it exists, it is not a distinct symptom of hepatitis; for, to say nothing of proper jaundice, the feces, as Dr. Latham has well observed, may be light-coloured, and the eyes, skin, and urine peculiarly yellow, from the pressure of an indurated pancreas upon the bile ducts, and an obstruction of their course.‡ [Out of

\* De Cur. Hom. Morb., tom. ii. p. 268.

† Mém. et Recherches Anat. Pathologiques, p. 403. Paris, 1826. Dr. Stokes also represents pain in the right shoulder as an extremely rare symptom; a point on which he coincides with Andral and Dr. Mackintosh. (Clinique Méd. and Elem. of Pathol. and Pract. of Physic, vol. i.) The editor has observed, however, that, in the *chronic* hepatitis, so frequent amongst the free living inmates of the great prisons which he attends, pain in the right shoulder is commonly complained of. In *acute* hepatitis, tenderness and swelling of the liver are also usual symptoms, the latter being easily detected when the bowels are empty; yet, as the observations of M. Louis prove, it is not a constant symptom.—Ed.

‡ From a table of cases of hepatitis, drawn up by Dr. Stokes, from the records of Andral, Louis, and the Meath Hospital, it appears that no explanation

five cases of hepatitis, detailed by M. Louis, four were attended with yellowness of the skin and pain in the right hypochondrium, but tension of the same part was remarked only in two. The concurrence of all these three symptoms accurately characterises hepatitis; but one or two of them alone accompanying an acute disorder, M. Louis thinks, have little validity; for, with respect to the yellowness, it frequently takes place in such case without any hepatitis; and as for the pain, it may depend upon so many causes, that it is not a very conclusive symptom. When, however, pain in the right hypochondrium and jaundice arise from chronic diseases, M. Louis has never seen the latter effect without an accompanying inflammation of the liver.\*]

The ordinary remote causes are suddenly suppressed perspiration, especially from currents of cold and damp air, and excess of spirituous potation: though often the cause is too obscure for detection. [Hepatitis is most common in the male sex, and is rarely met with in persons under the adult age.]

Dr. Saunders, and with some plausibility, suspects the acute variety is owing to an inflammatory state of the hepatic artery, and the chronic to a like state of the vena portæ. Winslow ascribes both to an inflamed state of the ramifications of the vena portæ†, which, in his opinion, constitute the seat of the disease; while Cullen refers us to the hepatic artery alone, and limits the seat of inflammation to its extremities. Dr. Heberden is not inclined to believe that the liver is primarily affected, but only influenced by a phlogistic diathesis, or preceding inflammatory fever.

If the inflammation originate in the peritonæal covering, the pain, as in most other cases of membranous affection, is peculiarly pungent, like that of pleuritis; the fever is severe, the tension very considerable, the pulse frequent, strong, and hard, the urine generally high-coloured. When the substance of the liver is primarily affected, the pain and pyrexia are far less acute, and especially at first; but they increase with the progress of the disease, or, in other words, as it extends to the peritonæal investment, the pain not only darting to the right shoulder, but sometimes as far as the throat and clavicle.‡

GEN. VII.  
SPEC. XIII.  
α E. Hepatitis  
acuta.

Remote causes.

Proximate  
cause as con-  
jectured by  
Saunders:  
by Winslow:  
by Cullen:  
Heberden.

Symptoms of  
membranous  
affection:

of parabysmic  
affection.

can be given of the reason for the presence or absence of jaundice, from any consideration of the state of the alimentary canal. We find, in the list referred to, cases of hepatitis with jaundice, in which that canal was free from disease; and the same symptom with gastro-intestinal inflammation; and with respect to the cases without jaundice, the stomach and bowels were healthy in some, and diseased in others: See Cyclop. of Pract. Med., art. LIVER.—ED.

\* Louis, Mém. Anat. Pathol., loc. cit.

† The inflammation and abscess of the liver, so common in phlebitis, are referred by Cruveilhier to the passage of pus, along with the circulating blood, into the minute ramifications of the vena portæ, in which it produces obstruction and irritation.—ED.

‡ The effects of hepatitis vary according to the intensity, duration, and situation of the disease. In general, the first visible effect is the production of increased vascularity of the parenchyma. In a more advanced stage, a softening of the substance of the liver is also observed, and there may be a deposition of pus or lymph on the serous surface. In this respect, according to Dr. Stokes, there is a great difference between the liver and the lung, as we seldom meet with pneumonia without serous inflammation, while the reverse often obtains in hepatitis; a consideration of vast importance in the surgical treatment of the disease. Cyclop. of Pract. Med., art. LIVER; also, Annesley's Dis. of India, vol. i.



GEN. VII.  
SPEC. XIII.  
α E. Hepatitis  
acuta.  
Prognostics.

Where the symptoms are most severe, and we have reason to suspect that the disease is confined to the peritoneal covering, the duration is often short, and the termination is in most cases that of resolution. But when less active, and seated in the parenchyma, it generally tends to suppuration; and if the convex side of the liver be the part affected, a tumour is visible externally, the cough becomes aggravated, and there is a difficulty of breathing.\* If adhesions have preceded the suppuration, the pus points to the skin, and the abscess opens on the surface; but, if it break internally, it generally proves fatal by inducing a hectic; though sometimes, in consequence of fortunate adhesions below, the abscess discharges itself into the hepatic duct, and the pus is carried off by this channel. It has, occasionally, by the same means, made its way into the stomach and intestines, where the abscess has been very large: in which case, however, immediately upon the bursting of the abscess, the patient throws off, by sickness or by purging, a large mass of most offensive matter, and often dies in a few hours. In like manner, the pus has occasionally formed an empyema in the thorax; and, in a few instances, has been discharged from the lungs.†

Progress of  
gangrene some-  
times rapid.

The progress to a state of gangrene is sometimes very rapid, and especially in the swamps of the East and West Indies. Dr. Chisholm gives a striking example of this in a gentleman who, being "heated and profusely perspiring after violent exercise, lay down and slept in this state in a current of cool air. He awoke soon after in the most excruciating torture in the right hypochondrium, and with great tumefaction of the whole abdomen. In two days he was dead." The liver was found greatly enlarged, and reduced in many parts to a state similar to that of rotten cork.‡

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p. 406.) The rarity of adhesions in hepatitis, even after the formation of matter, is a fact which had been observed by Drs. Graves and Stokes, before Mr. Annesley's work made its appearance. See Dublin Hospital Reports, vol. v. — Ed.

\* Abscess of the liver, as an effect of acute hepatitis, is very frequent in India, but rather uncommon in temperate climates. In relation to suppuration of the liver, as it presents itself in our latitude, the reader will find the most interesting information in the writings of M. Louis (*Recherches Anat. Pathol.*, Paris, 1826), and those of Drs. Graves and Stokes. (Dublin Hospital Reports, vol. v.) The matter may be either diffused or in the form of numerous minute abscesses, or in that of one or more large accumulations, sometimes encysted; on other occasions merely bounded by the softened and yellow hepatic substance. — Ed.

† Dr. Stokes has known abscess of the liver make its way, 1. Through the diaphragm into the lung; 2. Into the duodenum; 3. Into the cavity of the peritoneum. Dr. Smith of the United States relates a case, in which an abscess of the liver burst into the pericardium. With respect to the thorax, then, as Dr. Stokes has explained, the abscess may open into the lung, pleura, or pericardium; and, with reference to the abdomen, into some part of the alimentary canal, the peritoneal cavity, the gall-bladder, the vena cava, or kidney. See *Cyclop. of Pract. Med.*, art. LIVER.

‡ Climate and Diseases of Tropical Countries, p. 64. 8vo. London, 1822. Mr. Annesley, who alleges that he has made as many post-mortem examinations of subjects destroyed by liver diseases, as any writer on the diseases of warm climates, never met with an instance of gangrene of the liver; and he suspects, therefore, that the appearances which have been taken for gangrene, have been merely that black, congested, and softened state of the organ, which is sometimes observed in the more acute attacks of hepatitis. (*On Diseases of India*, vol. i. p. 435.) Andral met with one clear case, however, of gangrene of the liver, the only example he ever saw; a sufficient proof of the rarity of such an occur-

The disease sometimes terminates in induration, which bears an extent in some measure proportioned to the range of the preceding inflammation, and may often be felt by applying the hand to the region of the organ. This, however, is a more frequent result of the second or chronic variety.

In order to induce acute hepatitis, it is necessary that the organ of the liver, at the time of attack, should be in a state of at least moderate health and vigour; for it is in this condition only that inflammation running through its regular stages can take place; and hence the acute variety is found far more frequently in temperate than in intertropical climates; and, in the latter, more frequently among new comers, than among those that have been long habituated to the climate, and whose livers have been weakened and relaxed by the greater heat of the sun: "Among the men of the eighteenth regiment," says Mr. Christie, who was stationed at Trincomalee, and had the care of the entire garrison in 1798, "I found, for the first six or eight months, the disease was much more frequent, much more violent in its symptoms, showed more tendency to suppuration, and was more sudden in its crisis, than with the Company's European troops, who had been long in India, although the latter were the most debauched. Among the natives, hepatitis does not often occur: out of a thousand native troops, I did not, in the course of three months, meet with more than two cases of liver complaints, which is comparatively a very small proportion."\* There is, however, a striking distinction between the state of the bowels, as affected by this disease in hot and in temperate climates. In the latter it is rarely we have any diarrhoea, and often an obstinate costiveness, the evacuations being mostly tinged with bile. In the former, from the higher degree of irritation that prevails, and the greater extent of its range, a bilious lux is so frequent as to be almost a pathognomonic symptom; and as the gorged vessels are apt to give way from debility, this is sometimes intermixed with blood.

In our own climate, bleeding at the commencement of the disease is generally found serviceable, and ought to be prescribed as speedily as possible; and be repeated, generally or locally, as the violence of the symptoms may require, and the strength of the constitution allow. Frank advises leeches to the hemorrhoidal vessels, or to the hypochondrium; but the lancet is alone to be depended upon.†

Free purging, with calomel and Epsom salts, should immediately follow; and mercury be at the same time introduced into the sys-

GEN. VII.  
SPEC. XIII.  
a E. Hepatitis acuta.

Sometimes terminates in scirrhusity.

Why found mostly among the robust, and in temperate climates.

Illustrated.

Bowels differently affected in hot and temperate climates.

Remedial process in temperate climates.  
Bleeding.

Purging.

ence. Here, as Dr. Stokes observes, is another circumstance, in which the pathological relations of the liver differ remarkably from those of the lungs, in which gangrene is not an unfrequent occurrence. — Ed.

\* Letter to the Editor of the Medical and Physical Journal, May, 1798.

† Dr. Stokes's experience would lead him to say, "that general bleeding has not the same marked influence over hepatitis that it has over peripneumony, but appears principally useful in preparing the patient for local depletion, which seems to have the most direct influence on the disease. We have seen a case where upwards of one hundred ounces of blood were drawn at different times, and in which no apparent effect was produced on the inflammation, until local bleeding was performed. In a robust adult, not less than thirty leeches should be applied, after the general bleeding, to the most painful part of the side," &c. *velop. of Pract. Med.*

GEN. VII.  
SPEC. XIII.  
a E. Hepatitis  
acuta.

Mercurial  
course.

To be of use in  
hot climates  
should produce  
ptyalism.

Blisters.

Diaphoretics.

tem by the stomach or by inunction, or by both. [Drs. Pemberton and Saunders gave the preference to saline purgatives; Dr. James Currie to mercurial ones, and especially to calomel. With respect to inunction, or an attempt to affect the constitution generally with mercury in the early and highly inflammatory stage of hepatitis, it was disapproved of by the latter eminent physician, who used calomel at first "only as an evacuant.\*"] From the costiveness that usually accompanies the disease, it is rarely necessary to unite the mercury with opium; though, where it irritates the bowels, the latter should unquestionably be given; as it should also to allay the cough, where this symptom is very distressing and prevents sleep. The mercurial course, as recommended by Sir James McGrigor †, should be steadily persevered in, not only in hot climates, but in temperate, till a salutary change has been effected, or salivation has been freely excited. It will often be found, however, that the patient will bear a long continuance of the mercurial plan without any affection of the mouth, and will gradually and insensibly improve under it; the soreness and tension subsiding, the cough diminishing, the pulse becoming slower, and the heat and dryness of the skin yielding to a pleasant moisture; all of which are prognostics of a favourable issue. In hot climates, however, little benefit is obtained from mercury till it has produced ptyalism; while, such is the still greater degree of torpidity under which the absorbents, as well as the excretories of the liver labour, that it is often almost impossible to excite this effect by the boldest practice. "I have myself," says Dr. J. Johnson, "taken calomel in twenty-grain doses, three times a day, without experiencing the slightest inconvenience from the quantity; nay, I often found large doses sit easier on the stomach, and occasion less irritation in the bowels, than small ones. At this time too I was using every exertion, by inunction, to forward the ptyalism, yet it was several days before I could produce any effect of this kind." ‡

The application of large blisters over the hypogastric region in succession is recommended by most practitioners, but I have not found them successful; and have evidently derived more benefit from fomentations, epithems, and the warm bath.

Diaphoretics should certainly form a part of the curative process; and they combine admirably with the mercurial treatment, particularly the antimonial preparations. Cooling, diluent, and even

\* Twenty or thirty years ago, it was frequently stated, that mercury ought not to be given in acute inflammation of the liver, because it stimulated the organ; but that it was proper in chronic hepatitis. This doctrine is no longer respected in practice: mercury, given so as to bring on ptyalism, is generally conceived to be just as useful in acute hepatitis, as in any other form of active inflammation. (See Elliotson's Lectures at Lond. Univ., as published in Med. Gaz. for 1833, p. 482.) And Dr. Stokes observes, that, after the employment of general and local bleeding, the production of ptyalism appears to be the most powerful means of subduing the disease. He admits, however, that it is often difficult to excite ptyalism; and that the more severe the hepatitis is, the greater is this difficulty. As the best mode of insuring the favourable action of mercury, he recommends the inflammatory condition of the organ to be diminished, as far as possible, before its exhibition. — Ed.

† Medical Sketches, passim.

‡ Influence of Tropical Climates, &c. 3d edit. p. 174.



acidulated drinks, should be taken copiously; the diet consist chiefly of light farinaceous foods; and the chamber be well ventilated. If, from sudden shiverings, and remission of the quickened pulse, we have reason to believe suppuration has taken place, calomel, the mineral acids, and, above all, the bark, where it can be retained, should be given freely; the cinchona, at least in the proportion of from half a drachm to a drachm, five or six times a day; and this whether the abscess be likely to burst externally or internally, and, if the former, the direction should be encouraged by maturing cataplasms, and the abscess be opened as speedily as possible.\* The discharge is sometimes very considerable in quantity, and amounts to several pints; the pus is occasionally found pure, but more generally intermixed with coagulable lymph, or some viscid, yellow fluid. It is at times lodged in different sacs, and hence subsequent tumours ensue, and subsequent openings are necessary.†

It is not always, however, even after suppuration has taken place, that the abscess must necessarily open in any direction; for, when we have full reason to believe that such a result has occurred, the fluid may be carried off by absorption, and the organ be restored to a sound state.

[A softening of the liver has been noticed by several observers, and, amongst others, by M. Lallemand‡, in a case of very acute hepatitis attended with abscess. But M. Louis conceives, that, in the present state of our knowledge, a softening, joined with increased intensity of the red colour of the liver, cannot be deemed a certain proof of inflammation, unless the organ contain at the same time pus, or the patient had, while living, icterus and pain in the right hypochondrium. In fact, as these two symptoms took place in four out of the five histories recorded by him, he believes they are rarely wanting.§]

Dr. Chisholm found this disease on one occasion contagious. It was at Grenada, in the winter of 1786, in districts peculiarly ex-

GEN. VII.  
SPEC. XIII.  
α E. Hepatitis  
acuta.

Treatment in  
case of sup-  
puration.

Pus sometimes  
absorbed with  
success.

Softening and  
increased red-  
ness of the  
liver.

Found by  
Chisholm  
contagious.

\* The adhesion of the liver to the peritonæum, in cases of hepatic abscess, a circumstance so essential to the safety and success of the operation, is alleged to be rare. If such adhesion should not exist, the matter would pass into the cavity of the peritonæum, and cause an almost certainly fatal inflammation of it. To obviate this risk, Dr. Graves has proposed, that an incision should be made over the most prominent part of the tumour down to the peritonæum, without dividing this membrane. The wound is to be kept open with plugs of lint, and catheters are to be applied. The desired adhesions will then form, and the matter will make its way out through the incision. (See Dublin Hospital Reports, vol. iv.) Dr. Graves gives one instance of the success of the practice, and Dr. Stokes has seen two others. The passage of the matter of an abscess of the liver into the cavity of the pleura or peritonæum, is, no doubt, generally fatal; yet, in the Report of the Meath Hospital, a case is recorded in which death from peritonitis was apparently prevented by the opiate and stimulating treatment, first proposed by Dr. Graves in certain cases of peritonitis. In a case also of double abscess of the liver, related by Dr. Stokes (Cyclop. of Pract. Med.), the patient died eight days after the rupture of the second abscess into the peritonæum, and was evident, on dissection, that the process of cure had commenced, the gelatinous effusion in many places having assumed an appearance of layers, and presenting large blood-vessels in its interior. — Ed.

† Recueil d'Observations de Médecine des Hôpitaux Militaires, &c. Art. par J. Boucher, tom. ii. 410. Paris.

‡ Troisième Lettre sur l'Encéphale, p. 351.

§ P. Ch. Louis, Mem. Anat. Pathologiques, p. 407.

GEN. VII.  
SPEC. XIII.  
α E. Hepatitis  
acuta.

posed to the influence of chilling northerly winds, and possessing large tracts of marsh. The disease was lamentably mortiferous, though the symptoms were insidious, rather than violent. It usually destroyed in the course of six days; and the deaths were calculated at one in every six.\*

β E. Hepatitis  
chronica.  
Description.

In CHRONIC HEPATITIS, all the specific symptoms, as already observed, show themselves obscurely. The pulse is something quicker than usual, and there is an obtuse pain in the region of the liver; but such as would not perhaps be noticed, if it were not inquired into, and the organ pressed upon, and connected with a sudden quick expiration after an attempt to inspire deeply; and there is also an indistinct uneasiness generally, though not always, about the right shoulder; all the symptoms becoming exacerbated at a certain period of the day, commonly about four o'clock in the afternoon. But, in conjunction with the proper hepatic symptoms, the most obvious are those of dyspepsy and atrophy; the appetite fails, the stomach is capricious, the animal spirits flag, and the flesh wastes away. The bowels are generally costive, and the stools often clay-coloured, though not always; and there is usually a sallowness on the skin, or a dirty greenish hue, which Dr. Darwin, from its resemblance to the colour of a full-grown silk-worm, has denominated *bombycinous*. The disease slowly advances to suppuration, or terminates in a scirrhus induration; but, in many instances, and especially after a habit of hard eating or drinking, is the index of a broken-up constitution.

Excess.

Excess in eating and drinking, or indeed in any other voluptuousness, is the common cause of this variety of hepatitis in temperate regions†, though it sometimes follows obstinate quartans. It is, however, a more frequent affection in hot climates, where, as already observed, it is far more apt to occur than the preceding variety. And it is on this account we see so many persons returning annually to our own country, from the East or West Indies, with enlarged livers, irregular fever, indigestion, costiveness, fulness in the right hypochondrium, white stools, yellow complexion, dry cough, disturbed sleep, and dejected spirits; occasionally some of these symptoms being wanting, and occasionally others. In all such cases, the organ is torpid, yet irritable, and the cure must depend upon our ability to give it fresh tone and vigour. The general congestion is most effectually removed by smaller doses of calomel than advised in the acute variety, so as to produce an alterant effect, and gently excite the sluggish secretions into a state of renewed activity. Though here also ptyalism is aimed at in hot climates, yet in a milder degree than in the acute variety.‡

Treatment in  
severer cases:

\* Climate and Diseases of Tropical Countries, &c. p. 66. 8vo. Lond. 1822. The circumstances mentioned in the text make it very clear, that the disorder was not truly contagious, but epidemic. — Ed.

† In this country, chronic hepatitis is more common than acute. Bateman, in art. LIVER, Rees's Cyclopædia. — Ed.

‡ Before employing mercury, Dr. Stokes applies twelve leeches to the region of the liver every third or fourth day, until the pain and tenderness are removed. Afterwards he resorts to counter-irritation, with repeated blisters, or antimonial ointment. If these means do not succeed, he endeavours to affect the system gently with mercury, for which purpose he prescribes a small dose of calomel, or blue pill, combined with Dover's powder, to be taken at night, or mercurial inunction over the region of the liver. When any thing in the state of the con-

And, in conjunction with these, we are to employ warm aromatic bitters; and, where they agree with the stomach, the mineral acids. Dandelion, as recommended by Boerhaave and Bergius, has often been found serviceable. Dr. Pemberton paid much attention to its virtues, and had often seen it of decided advantage in incipient scirrhus of the liver and other abdominal organs; and strongly recommended it in doses of half a drachm of the extract twice a day.\* We cannot, however, always depend upon this preparation, and hence, as a general rule, it will be more advisable to employ the decoction. Where there is an evident tumour on the right side, a seton should be introduced over it.

In slighter cases, which have nevertheless compelled a return from India after a residence of eight or nine years, I have found all the symptoms vanish before a steady use of Plummer's, or the blue pill, taken every night for a month; and the Cheltenham air and waters, for the same period of time afterwards.

Where a chronic inflammation of the liver has terminated in a scirrhus of the whole organ, or of a great part of it, the blood is obstructed in its circulation, congestion takes place in other organs, and we often meet with very extensive hemorrhages from the lungs, nostrils, stomach, or anus. These discharges are rarely, perhaps never, of service in chronic cases, and only contribute to weaken the system. But, in acute cases, constituting the first variety, by diminishing the phlogotic action, they are often of very essential use.

[Disease of the liver not uncommonly brings on a cough, which is sometimes so prominent a symptom, as to lead the practitioner to suppose the seat of disease to be in the lungs.†]

GEN. VII.  
SPEC. XIII.  
β E. Hepatitis  
chronica.

in slighter  
cases.

Effects of a  
scirrhus in-  
farction.  
Extensive and  
dangerous  
hemorrhages.  
Useful instead  
of dangerous  
in the acute  
variety.

## SPECIES XIV.

### EMPRESMA SPLENITIS.

#### INFLAMMATION OF THE SPLEEN.

HEAT, FULNESS, AND TENDERNES IN THE SPLENIC REGION;  
WITH PAIN UPON PRESSURE.

Of the use of the spleen, as observed in the Physiological Proem to the first class, we know little or nothing. It secretes no peculiar fluid, except what serves to produce a change in its own blood, which is of a dark livid colour, and coagulates with difficulty. It is commonly supposed to be an organ auxiliary to the liver; and it is unquestionably subject to all its ailments: voluptuous living,

GEN. VII.  
SPEC. XIV.  
General inac-  
quaintance  
with the use of  
the spleen.

stitution forbids mercury, Dr. Stokes speaks favourably of the nitro-muriatic bath, or of sponging the surface of the body with the fluid. Frictions with the ointment of the hydriodate of potash on the right hypochondrium, and internal exhibition of iodine are also sometimes employed with benefit. — Ed.

\* Treatise on the Diseases of the Abdominal Viscera.

† See Dr. Brooke's Case and Obs. on Liver-Cough, in Trans. of the King's and Queen's College of Physicians, vols. iii. and iv.; and Sir Thomas Moriarty's Communication in the latter volume.



GEN. VII.  
SPEC. XIV.  
Empresma  
splenitis.  
Description.

however, and even the heat of a torrid sun, affect it less; but obstinate tertians and quartans more, and render it sooner congestive and scirrhus.

Inflammation of the spleen, together with the symptoms given in the definition, is accompanied with the usual pyreptic signs; and often with a pain extending over the whole of the abdomen, but particularly in the left side, and shooting from the diaphragm to the left shoulder. There is also not unfrequently a dry, short cough, and sense of constriction in the præcordia, sickness or nausea, and a discharge from the rectum of black or livid blood, from a rupture of some of the splenic vessels. It is, however, a rare complaint. "The spleen," observes Dr. Baillie, "is much less subject to inflammation than many other of the abdominal viscera. I do not recollect a strongly marked case of it in my practice; and I have never met with an abscess in the spleen in all the dead bodies which I have examined."\* The common causes of inflammation of the spleen, are the same as those of the liver; and the treatment needs not essentially vary, as the progress and terminations of the disease are not different. In India, where it is more common than in temperate climates, the native practitioners use acupunctures and scarifications.

Causes and  
treatment.

Splenalgia.  
what.

The SPLENALGIA, or pain in the spleen, of many writers, is for the most part a slight attack of this disease, with some small degree of fever. For further observations on diseases of the spleen, see *Parabysma Splenicum*, vol. i. p. 362.

## SPECIES XV.

### EMPRESMA NEPHRITIS.

#### INFLAMMATION OF THE KIDNEYS.

PAIN IN THE LOINS †; FREQUENT MICTURITION; VOMITING;  
NUMBNESS OF THE THIGH ON THE AFFECTED SIDE; RETRACTION OF THE TESTICLE.

GEN. VII.  
SPEC. XV.  
General  
causes.

Mostly a  
secondary dis-  
ease.

THE general causes of this species are whatever obstructs the flow of the fluids in the vessels of the kidneys; as a wound, contusion, tumour, strain of the muscles of the back that press on the kidneys, excess of horse exercise, various acrids conveyed to the kidneys by the course of the circulation. It is, however, most frequently met with as a secondary disease, resulting from calculous matter blocking up the tubuli uriniferi, or from calculi formed in the pelvis of the kidneys, and obstructing that cavity or the canal of the ureters,

\* Lectures and Observations on Medicine, 1815. Unpublished. Notwithstanding these remarks, abscesses of the spleen, and these of different kinds, have been met with by other anatomists, as may be learned by reference to the additions made to the subject of *parabysma splenicum*, in vol. i. p. 362. — Ed.

† Usually experienced only on one side, and descending along the ureter to the bladder; frequently a good deal of uneasiness is also felt in the glans penis. The numbness is in the inner part of the thigh, in the course of the anterior crural nerve. The testicle is often swollen and tender, as well as retracted. — Ed.

concerning which we shall have to treat under the genus LITHIA, embracing calculous concretions in the urinary passages.\*

The symptoms enumerated in the specific definition, are sufficient to indicate the presence of nephritis, though the numbness and retraction of the testicle are common to calculi in the ureters, or body of the kidney, even when there is little inflammation present. In the case before us, however, the skin is usually hot and dry†, the body costive, and motion, and even an erect position, are accompanied with considerable uneasiness. By the last sign, we may distinguish the disease from an inflammation of the psoas, or almost any other adjacent muscle; while the immediate seat of pain separates it from colic, even when it is attended, as it is occasionally, with ventral gripings.

When the disease is violent, the urine is discharged in small quantity, and of a pale hue. And hence, if the urine become higher coloured, be secreted in a larger proportion, and be at length thick and mixed with mucus, a gradual relief may be expected to follow, and the cure will be effected by a copious flow. The disease sometimes passes off also by a metastasis. But, if the symptoms be protracted beyond the seventh day, and there be stupor or heaviness in the organ, instead of acute pain, with frequent returns of chilliness and shivering, we have reason to expect that an abscess will ensue: in which event, the pus may be discharged into the pelvis of the kidney, the abdomen, or, in case of adhesions, externally through the integuments and the skin. The first is the most favourable issue, next to that of resolution; the last is often succeeded by a cure, but an evacuation of pus into the cavity of the abdomen rarely. In some instances, the suppuration has been so considerable as to destroy the substance of the affected kidney entirely, and leave nothing but the external membrane.‡ Yet there are cases, in which a patient has recovered even in this state, and the office of secretion has been performed by the sound kidney alone.

\* Nephritis may be produced by cold, like any other inflammation, but it is rarely an idiopathic disease; it is more frequently the result either of mechanical violence, or of the action of turpentine or cantharides on the kidneys; or of stones lodged in it; or of a disposition perhaps to gout. See Elliotson's Lectures, delivered at Lond. Univ., as published in Med. Gaz., p. 722. 1833. — Ed.

† Dr. Cullen inserts pyrexia as a part of his definition of nephritis, and, according to the editor's judgment, very correctly; for, as Dr. Carter observes, all the other symptoms are common to both nephritis and nephralgia: indeed, the *pain* in the latter affection may be much more intense than in inflammation of the substance of the kidney, and quite as severe as when its capsule is inflamed; *but the pulse is little, if at all, affected*, and the other signs of inflammatory fever are absent. But if, with the symptoms of the local affection, we find a frequent, hard pulse, a loaded tongue, great heat and dryness of skin, we may at once pronounce the disease to be nephritis. (See art. NEURALGIA, &c. in Cyclop. of Pract. Med.) In a rheumatic affection of the loins, the pain is usually felt on both sides, extending to the hip, and, if down the thigh, not in the course of the anterior crural nerve, but in that of the sciatic nerve. (See Elliotson's Lectures at Lond. Univ., Med. Gaz., p. 721. 1833.) There is no frequent desire to make water, no pain in the course of the ureter, no enlargement, no tenderness, no retraction of the testicle. — Ed.

‡ The editor was required to sound a patient, in a case of this description, attended with symptoms very much resembling those of stone in the bladder. The patient was under the care of Dr. Smith and Mr. Baker of Staines. The former gentleman published some of the particulars of the disease in one of the volumes of the Lond. Med. Gaz. The quantity of matter was very considerable. — Ed.

GEN. VII.

SPEC. XV.

Empresma  
nephritis.

Symptoms.

How distin-  
guishable from  
other affections.

Prognostics.

In case of sup-  
puration, pus  
how discharged.

GEN. VII.  
SPEC. XV.  
Empresina  
nephritis.  
Sometimes  
gangrene  
ensues.

Gangrene occasionally ensues\*, and is indicated by a sudden remission or cessation of pain, after great violence of vascular action; accompanied with cold sweats, a sinking pulse, discharge of black urine, and other symptoms of approaching dissolution. Generally speaking, the cases of complete recovery are but few, though the patient often lingers, and even with an occasional prospect of recovery, for many months, or even years. "The formation of matter," observes Dr. Baillie, "will sometimes be suspended for several months, and patients will recover, in a considerable degree, their general health. The disease will return, either from imprudence in diet or exercise, or without any known cause, and the patient will become as ill as ever. It very rarely happens that a patient permanently recovers from this disease, and I do not at present recollect an instance of it."†

Treatment.

In attempting a cure of nephritis, we should commence with copious bleeding, and we may most conveniently apply cupping-glasses to the region of the kidneys. Saline purgatives should follow; and then oleaginous or mucilaginous emulsions, with small doses of nitrate of potash, or tincture of digitalis. The last has often proved highly serviceable in taking off the arterial action that maintains the inflammation, and at the same time in augmenting the urinary secretion. The loins should, at the same time, be covered with a large folded flannel wrung out in hot water, and confined, as already described in the case of peritonitis; and copious emollient injections should be frequently thrown up the rectum, and suffered to remain there as long as the patient may be able to retain them. The rest of the treatment and regimen should be that of inflammation in general.‡

## SPECIES XVI.

### EMPRESMA CYSTITIS.

#### *INFLAMMATION OF THE BLADDER.*

PAIN AND SWELLING IN THE HYPOGASTRIC REGION; PAINFUL OR OBSTRUCTED DISCHARGE OF URINE; TENESMUS.

GEN. VII.  
SPEC. XVI.  
Idiopathic  
inflammation  
not common.

The bladder is often irritated and inflamed by the lodgment of a calculus in it, by viscid substances that pass into the circulation, and particularly by cantharides, ardent spirits, and terebintline essences, or balsams. Idiopathic inflammation is not a frequent

\* See a Case by Dr. Turner, in the 4th vol. of the Trans. of the College of Physicians. — En.

† Lectures and Observations on Medicine, 1825. Unpublished.

‡ I believe the best practitioners of the present day do not administer digitalis, nitrate of potash, and other diuretics, in cases of nephritis. With respect to purgatives, Dr. Elliotson prefers those of calomel. The warm bath is also more efficient than partial fomentations. In the event of suppuration, the treatment is to be regulated by the principles applicable to suppuration in general. Abductives will be required, and *uva ursi* may be tried, though its virtues are rather doubted by many members of the profession. — En.



disease; yet it occasionally occurs; for the bladder is subject to the common causes of inflammatory affection. Its exterior serous coat, its muscular coat, and its internal mucous membrane may all be affected; or, the inflammation may affect the muscular or mucous coat separately.\* [Cystitis is sometimes brought on by gonorrhœa, the inflammation of the lining of the urethra extending to the mucous membrane of the bladder.]

If the lower part of the bladder be chiefly affected, the pain will extend to, and take the course of the perinæum. If the seat be in the neck of the organ, there will be a retention of urine with a constant urgency to evacuate; if in the fundus, the urine will flow stillatitiously, and without ceasing; the bladder will give a feeling of being constantly full; and the patient will be perpetually and fruitlessly striving to empty it. In this affection, there is usually great restlessness and anxiety, with cold extremities, vomiting, wildness of the eyes, delirium, and other marks of great general irritation. Much heat and smarting are generally experienced in the urethra; the patient is troubled with continual tenesmus, and pressure on the hypogastric region occasions violent suffering. The disease runs its course with rapidity, and subsides, or destroys the patient, in a few days.†

It terminates, like all other inflammations, most favourably by resolution. But if this do not take place, it passes on to suppuration or gangrene; the diagnostics of both which are those already noticed in the preceding species. If suppuration take place, the pus may be discharged by the urethra, which is its happiest outlet; or it may follow the course of the ulceration, and be emptied into the cavity of the abdomen; or, if adhesions have been formed with the subjacent cellular membrane, it may work its way in a sinuous direction, and find an opening in some part of the perinæum. Of the last two terminations, the first is almost always fatal; and the second is extremely troublesome and tedious, though a cure is usually effected at last.

Repeated bleedings, aperients, and relaxants, with copious emollient injections, suffered to remain in the rectum as long as possible, form the chief part of the plan of cure. Blood should be drawn both generally and locally, and a large bladder, about half full of warm water, be kept constantly over the pubes. The warm bath has also been frequently of essential service. When the urine is actually suppressed, it is usually evacuated by a catheter: but I would strenuously recommend, instead of this, a siphon formed upon the plan of that employed by Mr. Jukes for the stomach, and already

GEN. VII.  
SPEC. XVI.  
Empresma  
cystitis.

Distinctive  
characters.

Disease pro-  
ceeds rapidly :

and terminates  
variously.

Treatment.

Elastic suction-  
pump.

\* In some observations on inflammation of the bladder, inserted by Mr. Coulson in the *Med. Gaz.* for 1833, an attempt is made to lay down the particular symptoms which characterise both these varieties of cystitis. — Ed.

† When the lining of the bladder is inflamed, the disease is very likely to be mistaken for stone. The following are the considerations specified by Mr. Coulson, as indicating the difference of one case from the other: —“ The uneasiness in the bladder, frequent desire to make water, and the passage of blood with the urine, are symptoms of stone, as well as of this complaint. But in stone, the pain is principally experienced after the bladder has been emptied; whereas, in acute inflammation of the mucous membrane of the bladder, the pain is most intense when the bladder is full, and subsides when it is empty: in stone, larger quantities of blood are passed than in this disease, and the urethra is seldom so irritable.” *Med. Gaz.* for 1833, p. 666. — Ed.

GEN. VII.  
SPEC. XVI.  
Empresma  
cystitis.

described under *dysphagia constricta*\*, with an elastic bottle attached to its outer end, and a stop-cock adapted to it; so that, being introduced in its contracted or vacuum state, it may readily be converted into a powerful suction-pump by merely turning the valve. This instrument may also be rendered of great importance in another way; for by charging it with an emollient or anodyne fluid, when the bladder is empty, we may get such preparations to come immediately in contact with the inflamed surface of the bladder, in any degree of strength that may be advisable.†

## SPECIES XVII.

### EMPRESMA HYSTERITIS.

#### INFLAMMATION OF THE WOMB.

PAIN, SWELLING, AND TENDERNESS IN THE HYPOGASTRIC REGION; HEAT, PAIN, AND TENDERNESS IN THE OS UTERI; VOMITING; PULSE RAPID.

GEN. VII.  
SPEC. XVII.

This species offers us two varieties, according to the condition of the organ at the time of attack:—

α Simplex.

Simple inflammation of the womb.

The organ unimpregnated. Pain permanent, circumscribed, throbbing; fever a cauma.

β Puerperarum.

Puerperal inflammation of the womb.

The organ having lately suffered childbirth. Pain less acute, less circumscribed; flow of urine difficult; fever a synochus or typhus.

α E. Hysteritis  
simplex.

The FIRST of these is produced by cold, or any of the other ordinary causes of inflammation, and terminates in resolution, suppuration, scirrhus, or gangrene. The most ordinary termination is that of resolution, the next that of scirrhus, sometimes running into cancer: both which are far more common to women who have never been impregnated than to those who have had families, but rarely appear before menstruation, from the natural quiescence of the organ in this state.‡ [One

Distinctive  
symptoms.

\* Class 1. Ord. 1. Gen. III. Spec. 1.

† The plan of appeasing an inflamed bladder, by injecting any kind of fluid into it, is one that is now renounced by all men of experience. On this point I will quote a short statement made by Mr. Coulson, in speaking of inflammation of the mucous membrane of the bladder:—“Some recommend the injection of oil and opium, and other substances, into the bladder, by means of a gum-elastic catheter; and, in one of my patients, this plan had been suggested by an eminent physician, prior to the patient being placed under my care; but no benefit was derived from this treatment. In fact, the pain and irritation which are experienced from the introduction of instruments into the bladder in these cases, are so considerable, as to deter me from employing this plan.” (Lond. Med. Gaz. for 1833, p. 666.) This gentleman found some benefit produced by the decoction of pareira brava, after the severity of the pain had been subdued by other means; though he pronounces it to be more applicable to the chronic form of the complaint. He adds, hyosciamus, opium, lime-water, with syrup of poppies, may, from time to time, be administered.—Ed.

‡ J. P. Frank, de Cur. Hon. Morb. Epit., tom. ii. § 922. p. 217.

symptom is constant, viz. pain in the hypogastric region, which is increased by the slightest pressure, or on the patient's making a deep respiration. The urine is generally voided with difficulty, and in small quantities; and, as the rectum participates in the irritation, a distressing tenesmus is experienced. The bowels are mostly irregular, the tongue white, and the pulse rapid, small, and what some practitioners term wiry. The pain frequently extends with great severity to the loins, and sometimes shoots down the thigh; and, as the stomach sympathises, there is generally vomiting.]

All the ordinary means already noticed for subduing inflammation, both general and local, should here be put into effect without loss of time; as, copious and repeated venesection, leeches, aperients, emollient injections both into the rectum and uterus itself, and fomentations or epithems to the hypogastrium. The disease is sometimes relieved by a sudden flow of the menses, with hemorrhage or genuine blood.

The SECOND VARIETY, in which the symptoms are alike, but less acute, is usually, though not always, a result of suppressed lochia, or violence sustained during labour, particularly from the use of instruments: the inflammatory action from this cause often extends down the vagina, which is hot, reddened, tense and tender to the touch; and sometimes the same effects descend so low as to be manifest externally. Bleeding is here to be avoided, and the inflammation to be attacked with gentle laxatives, diaphoretics, and, where there is much irritability, camphor and opiates; fomentations and injections being employed at the same time.

It is a singular but well ascertained fact, that the spleen, from some unknown cause, is peculiarly apt to sympathise with the action of the womb, and at times to run into an equal degree of inflammation, suppuration, or even gangrene; and especially in females of a high nervous temperament. And so common is this fellowship of action, that most of the cases of diseased spleen related by Morgagni, are accompanied with an account of some mischief existing in the womb or its appendages. It is, however, to M. Gastellier, of the Hospice de la Maternité, at Paris, that we are chiefly indebted for a knowledge of this peculiar sympathy, and especially in the case of uterine inflammation after childbirth. "La rate," says he, "en a été souvent frappée, mais une fois entr' autres elle a été entièrement détruite, entièrement fondue: il n'en restoit aucune trace, sinon un foyer de fluide sanieux, dans la région, et en place de cet organe."

This passage from M. Gastellier is quoted by Dr. Ley, in a case of a similar kind which lately occurred to himself in the Westminster Lying in Hospital.\* In this case, the preceding labour seems to have been perfectly natural, and without any difficulty whatever. On the third day afterwards the disease seems to have commenced, indicated by intense pain over the whole of the abdominal region, with a slight sense of fulness, but without any considerable degree of tension. The patient sunk suddenly seven or eight days subsequently, and at a time when she was supposed to be in a state of improvement. On examining the body, the peritoneum and intestines exhibited little morbid affection of any kind,

GEN. VII.  
SPEC. XVII.  
α E. Hysteritis  
simplex.

Treatment.

β E. Hysteritis  
puerperarum.

Singular sympathy of the spleen with the morbid uterus.

Illustrated from Gastellier:

Confirmed by Dr. Ley.

\* Med. Trans., vol. v. art. xx.



GEN. VII.  
SPEC. XVII.  
β E. Hysteritis  
puerperarum.

and the disease was found limited to the uterus and spleen; the peritoneal covering of both was slightly inflamed, but the internal structure of both had undergone a very extensive destruction. The whole surface of the uterus, when stripped of its tunic, was found to have assumed a gangrenous appearance, was extremely irregular, of a dark, livid hue, and gave forth a highly offensive vapour. The texture of the spleen was so changed as to resemble an extremely soft piece of sponge, and its cells were filled with an intimate mixture of pus and grumous blood. \*

## SPECIES XVIII.

### EMPRESMA ORCHITIS.

#### INFLAMMATION OF THE TESTICLES.

PAIN AND SWELLING OF THE TESTICLES; NAUSEA OR VOMITING; DEPRESSION OF SPIRITS; PULSE QUICK, SOMEWHAT LOW. †

GEN. VII.  
SPEC. XVIII.  
Hernia humoralis, what.

INFLAMMATION of the testicle has generally been expressed by the absurd and unmeaning name of *hernia humoralis*; which, however, in its earliest use, applied to only one stage of the disease, namely, the suppurative, and imported an abscess or collection of pus in any part of the scrotum; and, in this sense, the expression occurs in Heister and Dionis, being precisely synonymous with the empyocoe of the Greeks. I have revived the Greek term ORCHITIS, not only as being far more precise, but as accordant with the general termination of the specific names of the diseases appertaining to the present genus.

Empyocoe,  
what.

Progress of  
the disease.

The inflammation seems commonly to commence in the tunica vaginalis, and to pass secondarily into the substance of the testis. Dr. Swediaur contends, that the testis never swells in the first instance, and that the disease always begins in the epididymis. ‡

\* Hysteritis puerperarum is, in fact, the disorder commonly, but improperly, called *puerperal fever*, and described in the first volume of this work, p. 715. Experience has now fully proved, that this disease is not necessarily and essentially peritonitis. This fact is clearly established by the evidence adduced on the subject by M. Tonellé, Dr. Conquest, and Dr. Lee. Dr. Conquest does not think, however, that the morbid appearances are always sufficient to account for death; for sometimes he has only found a Fallopian tube, or an ovary inflamed. In other cases, hysteritis, uterine phlebitis, gangrene of the uterus, and agglutination of all the pelvic viscera, are noticed in post-mortem examinations. For further information respecting the morbid appearances, see p. 715. et seq. of the first vol. of the Study of Medicine. An excellent account of the different views taken by different men of eminence of the nature and best mode of treating puerperal fever, is given in Ryan's Manual of Midwifery, p. 635. ed. 3. His description might be much enriched by a notice of the valuable observations of Dr. Lee. — Ed.

† The pulse is quick and hard; the skin is hot; the patient is constipated; and if blood be drawn from the arm, it presents a buffy covering, and its surface is cupped or excavated. — Ed.

‡ According to Sir Astley Cooper, the first symptom of orchitis, when it arises from sympathy with the urethra, is an irritation of the membranous or prostatic portion of that canal, as if some drops of urine still remained in the

The causes are irritation in the urethra, or external injuries. The most common source of irritation is a gonorrhœa [which usually stops, or undergoes a considerable diminution, as the testis begins to swell]. Bleeding, leeches, puncturing the veins of the scrotum \*, the recumbent posture, laxatives, and cold lotions, with a suspensory bandage, form the curative process. [After two or three days, fomentations and poultices are the best applications. †] Yet we have already observed, that, when all local applications have proved ineffectual, the inflammation has been removed by vomits, in consequence of the close sympathy between the testis and the stomach.

This was a frequent practice of Mr. John Hunter ‡, and especially when the inflammation was the result of gonorrhœa. It was successfully employed for the same purpose, and is hence strongly recommended by Rhases §, and is a common mode of treatment on the Continent, particularly in Germany: after which opiates are often had recourse to, as well externally as internally. It may be worth remarking, that the affinity or play of action, which thus prevails between the testis and the stomach, does not appear to be the common bond of union that is exhibited between the stomach, as the general centre of sympathy, and most other parts of the system; but a fellowship of a peculiar kind, and which, in fact, does not terminate in the stomach, but extends to the upper extremity of the alimentary tube, and exercises a very high degree of influence over the parotid glands, as is well known in E. PAROTITIS, and has been already noticed in discussing that disease. In treating of E. HYSTERITIS, I have had occasion to glance at the existence of a like sympathy between the uterus and the spleen: and the physiologist who has time for such pursuits, and judgment enough to guide him to a correct discrimination, would be engaged in no unthrifty employment, if he were to follow up, and arrange in a regular classification, these specific and mysterious relationships

GEN. VII.  
SPEC. XVIII.  
Empresma  
orchitis.

Causes.

Treatment.

Peculiar  
sympathy be-  
tween the  
stomach and  
testis.

Parallel of  
affinities be-  
tween other  
organs.

beginning of the urethra: and this is succeeded by a tenderness in the spermatic cord at the abdominal ring, and by swelling and pain in the epididymis. The testicle next swells, and attains a considerable size, becoming at the same time so tender, that the pressure of the thigh against it can hardly be endured. Its weight is also much increased; the pain and swelling extend along the cord into the inguinal canal; and a good deal of uneasiness is felt both in the groin and the lumbar region, especially when the inflamed testis is suffered to hang down unsupported. In severe cases, nausea and vomiting sometimes occur. It is remarked by Sir Astley Cooper, that the epididymis swells more in proportion than the testis, the globus major and minor being more affected, however, than the body of the epididymis, and the former generally very perceptible in front of the spermatic cord. In some cases the pain is periodically and severely increased by spasms of the cremaster muscle. See Obs. on the Structure and Diseases of the Testis, by Sir Astley Cooper, Bart. 4to. Lond. 1830, p. 9.

\* Sir Astley Cooper, op. cit., p. 27.

† Sir Astley Cooper, op. cit., p. 28. This excellent surgeon finds, that there are some constitutions in which depletion will not succeed in relieving orchitis, and, when the pulse is jerking, the patient irritable, and the part painful, he deems it the best practice to give the submuriate of mercury, with the compound powder of ipecacuanha. When matter forms, he recommends it to be discharged by puncture, as the tunica albuginea ulcerates slowly. Frequently the abscess is in the testis itself; often in the epididymis; and occasionally in the spermatic cord. Op. cit., p. 30. — Ed.

‡ On Venereal Disease.

§ Continent., lib. XL.

GEN. VII.  
 {SPEC. XVIII.  
 Empresma  
 orchitis.

which single organs hold with single organs, and which are subordinate to the general harmony of the entire machine.\*

## GENUS VIII.

### OPHTHALMIA.

#### OPHTHALMY. INFLAMMATION OF THE EYE.

PAIN AND REDNESS OF THE EYE OR ITS APPENDAGES; INTOLERANCE OF LIGHT; FLOW OF TEARS OR OTHER DISCHARGE.

GEN. VIII.  
 Origin and  
 general import  
 of ophthalmia.

OPHTHALMIA, from the Greek term ὀφθαλμός, "oculus," is obviously of very extensive import, and, from its radical signification, may be applied to any morbid affection of the eye, unless limited by common consent. Now, although a sort of common consent has been given, so as to restrain the term to inflammatory action, such consent has not been universally acceded to; and hence ophthalmia has been used in very different senses by different writers. Thus Sauvages, Linnéus, and Sagar, employ it as expressive of any ache of the eye, without reference to pyrexia or inflammation. Amongst all these, therefore, it occurs under their class *dolores*, and runs parallel with cephalalgia, or cephalæa, ache or pain in the head. By Vogel, Cullen, and Macbride, it is limited to inflammatory affections of the eye; the two former arranging it as a genus, and the latter as a species. By Dr. Parr and Dr. Young it is also arranged as a species, and limited to phlogotic action; the second denominating it ophthalmitis, consonantly with the common termination of names importing inflammatory diseases of a particular description of internal membranes and organs.

How understood by different writers.

Its meaning in the present work.

In the present system OPHTHALMIA assumes a middle rank: it is limited to inflammatory action accompanied with organic pain, but is arranged as a genus. It might possibly have been placed as a species under the preceding genus, EMPRESMA; but it has various characters peculiar to itself, as well in regard to its symptoms, as to the particular parts of the organ affected, which seem to entitle it to the rank of a distinct genus. And, thus explained, its real meaning will be found in the generic definition; the symptoms of inflammation common to the order, and entering into the ordinal definition, being always understood as a part of the generic character. [Yet, if the words of the definition be strictly adhered to, and no inflammations of the eye be regarded as species of ophthalmia, unless attended with redness and intolerance of light, certain cases, generally admitted to be such by the best

Author's definition will not embrace all cases.

\* It is remarked by Sir Astley Cooper, that when an acute inflammation of the testicle is sympathetic with the urethra, it rarely advances to suppuration; and he extends the same observation to other sympathetic inflammations. But, when orchitis is the effect of mechanical violence or vicissitude of temperature, suppuration may happen, though not frequently. The symptoms are then aggravated, and rigors occur. Op. cit., p. 11. — Ed.



modern practitioners, will be excluded. As Mr. Lawrence has correctly noticed, it is impossible to reduce into one description the characters of the various inflammations affecting the several structures of the eye. The truth of this must be evident, when it is recollected, that the eye and its appendages exhibit, within a very small compass, a great variety of textures. We find, in the visual apparatus, specimens of each of the three divisions of membranes, the mucous, the fibrous, and the serous; the conjunctiva, the sclerotica, with the cornea, and the surfaces containing the aqueous humour, corresponding respectively to each of those classes. It contains also nervous, muscular, and glandular parts; and besides these, several tissues of peculiar structure, to which there is nothing analogous in other parts of the body; as the iris, the ciliary body, the choroid coat, and the transparent media. Each of the latter has its own characteristic structure: the cornea, the crystalline lens, the capsule of the lens, and the vitreous humour, resemble each other only in being transparent. What similarity of character can we trace between inflammations of the conjunctiva, cornea, iris, and retina? Inflammation of the external tunics differs widely from that of the internal. Hence the attempt to embrace all these affections under one head, name, or definition, will only lead to confusion. It may be argued, indeed, that several textures of the eye are frequently inflamed together; yet the affection mostly begins in one, and, if duly treated, may often be wholly or principally restricted to it.\* As, in a work of this kind, it can hardly be desirable to enter into a minute description of cases usually regarded as belonging to the department of the surgeon, the editor conceives, that a notice of the following species of ophthalmia will suffice, the arrangement being founded on the structure and parts of the eye chiefly affected.

GEN. VIII.  
Ophthalmia.

Great variety  
of the textures  
of the eye.

Inflammation  
of some tex-  
tures has no  
resemblance to  
that of others.

- |                        |  |
|------------------------|--|
| 1. OPHTHALMITIS.       | INFLAMMATION OF THE WHOLE EYEBALL.             |
| 2. OPHTHALMIA EXTERNA. | INFLAMMATION OF THE EXTERNAL TUNICS.           |
| 3. ————— INTERNA.      | INFLAMMATION OF THE INTERNAL PARTS OF THE EYE. |

These species, with their varieties, will embrace as much of the subject as can be expected in a work of the present description,

\* As Mr. Middlemore has well observed, the study of the diseases of the eye is peculiarly interesting; for, in consequence of the superficial situation of some of its textures, and the transparency of others, an opportunity is frequently afforded of actually witnessing the morbid process. When the pleura is inflamed, we may infer, from existing symptoms, that serum is effused, that lymph is deposited, or that pus is secreted, as a consequence of such inflammation; but, if the conjunctiva, or any of the superficial textures of the eye are diseased, we can not only see their precise pathological state, but the product of such morbid condition. (See Lectures on Dis. of the Eye, as published in Med. Gaz. for 1832-3, p. 136.) "Many of the diseases of the eye, and, generally speaking, those of chief importance, are very obscure in their symptoms on cursory examination, and, at the same time, rapidly destructive in their progress; and, unless they are very promptly detected, they may arrive at that degree which no remedies will then affect. To detect, therefore, the degree of inflammation, as well as the particular texture inflamed, affords, in many instances, the only chance of preventing the loss of vision." Middlemore, op. cit. — Ed.

GEN. VIII.  
Ophthalmia.

rather embracing physic than surgery. Staphyloma, ectropium, and entropium, which were arranged in the early editions as species of ophthalmia, though frequently attended with a greater or less degree of inflammation of the organ, are never considered by any of the best practitioners of the present day as ophthalmies. It is therefore only on the principle of their being often associated with a degree of ophthalmia, that their admission into the present genus can be at all justified. The editor, therefore, with some reluctance, suffers them to remain annexed to the foregoing species, and in the place assigned them by the author.

4. ————— STAPHYLOMA. PROTUBERANT AND OPAQUE CORNEA.
5. ————— ECTROPIUM. EVERTED EYELID.
6. ————— ENTROPIUM. INVERTED EYELID.

For the diseases affecting the SENSE of vision, and unaccompanied with inflammation, the reader must turn to the ensuing class NEUROTICA, Order II. in Vol. III.

## SPECIES I.

### OPHTHALMITIS.

#### INFLAMMATION OF THE WHOLE EYEBALL.

INFLAMMATION SEATED IN NO PARTICULAR TEXTURE, OR COAT, BUT AFFECTING MORE OR LESS ALL THE TISSUES OF THE EYE; INCREASED SECRETION OF TEARS.

GEN. VIII.  
SPEC. I.  
Symptoms in  
the first stage.

WHEN this general inflammation of the globe is fully developed, it is characterised by very considerable pain, increased external redness, more or less swelling of the part; increased lachrymal discharge, following, however, an earlier stiffness and dryness of the eye; and by redness and swelling of the upper eyelid. The pain is by no means confined to the front of the eye; but is deep-seated, and extends to the surrounding parts, as the brow, cheek, temple, and back of the head. The redness is at first inconsiderable, and seated in the sclerotic coat; but the conjunctiva soon participates in it, and the distension of its vessels produces the bright scarlet redness, which conceals the faint pink colour of the sclerotica. The conjunctiva then begins to swell, and a deposition of lymph takes place, not only in the texture of the membrane, but in the loose cellular tissue that unites it to the sclerotica. This bright scarlet elevation of the conjunctiva, projecting beyond and surrounding the cornea, firm, of considerable breadth, and acutely sensible, is technically called *chemosis*.

Chemosis.

The access of light is very offensive to the patient; the pupil contracts to exclude it; and the eyelids are spasmodically closed. As the slightest attempt also to exert the organ produces severe pain, the patient keeps it as completely as possible at rest.\*

\* See A Treatise on the Diseases of the Eye, by William Lawrence, p.74. 8vo. Lond. 1833. — ED.

In the second stage, various alterations of structure are noticed. The iris becomes changed in colour, its brilliancy declines, and it no longer exhibits its usual motions in the varying degrees of light. The pupil contracts, and loses its clear black colour. The cornea becomes more or less opaque, and vision is lost. The alteration in the cornea, and in the state of the pupil, as Mr. Lawrence well observes, would account for imperfection or loss of sight; but the latter often occurs while the cornea is sufficiently clear for the transmission of light, and the pupil still open: hence, the evil is then to be ascribed to the mischievous effects of the inflammation on the structure of the retina; which effects, also, no doubt, generally exist, when the above specified causes of the interruption of the passage of light into the eye are present.

When the inflammation has attained its greatest violence, ectropium of the lower eyelid takes place, and a portion of the anterior surface of the eye projects in a denuded state, like a piece of red flesh.

To continue Mr. Lawrence's matchless description, here, however, considerably abridged, the mucous membrane of the eyelids becomes the seat of inflammation equally violent with that of the conjunctiva of the globe, becoming red as well as the skin, and the consequent swelling forms a large convex protuberance on the upper eyelid. The pulse is quick, hard, and full; the face flushed; headach is experienced; the skin is hot and dry; the tongue white; the appetite lost; the patient restless, and his nights sleepless.

The disorder, if not checked, is now attended with aggravation of all the general and local symptoms; the pain becomes throbbing, rigors occur, and suppuration of the eyeball follows; the cornea turns of a dull white, and then yellow colour. The agony is not relieved by the formation of matter, but continues for some days, until the cornea bursts, and the contents of the abscess are discharged, generally with the vitreous humour and crystalline lens. Matter is discharged for a time; the tunics of the eye collapse, shrink into the orbit, and the original form of the organ is completely lost.

When the disease does not proceed so far, the cornea becomes opaque, and remains so; the pupil is either closed or very much contracted, and the aperture filled by a newly formed adventitious substance. Vision is either completely, or in a great degree lost; but the form of the eye remains.

The most favourable termination that can be expected, is the recovery of the organ, with the cornea clear, and the pupil open; still, in this case, as Mr. Lawrence has observed, the retina has generally suffered so much, that more or less of imperfection of vision is produced.

The present species of ophthalmia is characterised by its commencing, at one and the same time, in the external and internal tunics of the eye. Internal inflammation may spread to the external coats, or external inflammation may extend inwards; but, in this affection, both sets of parts are simultaneously attacked.

The prognosis, as delivered by Mr. Lawrence, is short and instructive. If the affection be seen early, and actively treated, you may expect to arrest it, and to prevent a change of structure in the

GEN. VIII.

SPEC. I.

Ophthalmia.

Effects noticed in the second stage.

Suppuration of the eyeball.

Cornea opaque, and pupil more or less closed.

Retina often permanently injured.

Peculiarity of this inflammation.

Prognosis.



GEN. VIII.  
SPEC. I.  
Ophthalmitis.

Causes of  
ophthalmia.

organ, and consequent injury or loss of sight. But, if the inflammation be fully developed, it can hardly be controlled, so as to preserve the powers of the organ unimpaired. When chemosis is actually established, the cornea clouded, the colour of the iris changed, and the pupil contracted, the patient will certainly lose his sight.

With respect to the causes of ophthalmia in general, our limits will permit us only to give a brief enumeration of them. Accidental wounds; surgical operations; and direct injury of the eye by various extraneous substances, mechanical or chemical stimuli, coming in contact with it; immoderate use of the organ; the influence of various states of the atmosphere; dense winter fogs; currents of cold wind blowing directly on the eye; exposure of the organ to vivid light, or its employment in the examination of luminous shining bodies. To use Mr. Lawrence's words, as the eyes are parts of an organic system, connected with the rest by vessels and supply of blood, by nerves, and by reciprocal sympathetic influences in health and disease, the remote and predisposing causes must be the same for them as for the rest of the body. One of the most important of these is fulness of habit, and, more technically, a plethoric condition of the system, arising from excess, or imprudent indulgence in the quantity or quality of food and drink. These indulgences produce and keep up an unnatural excitement, under which accidental circumstances more readily occasion disease, and that disease partakes more of the acute inflammatory character. The effects of all excesses at table will generally be aggravated, if combined with the unhealthiness of sedentary occupations in close and crowded dwellings. Another predisposing cause is the suppression of some habitual discharge, as that of menstruation. When, as Mr. Lawrence observes, we consider that, in a large portion of the community, all these predisposing circumstances are united with the direct exciting influence of excessive or injurious exertion of the organ, we shall cease to wonder at the numerous instances of inflammation in all the textures of the eye, that daily present themselves to our observation.\*

\* The annexed passage from Mr. Lawrence's work is introduced as conveying, in a small compass, a great deal of useful information: — "The common or idiopathic inflammation, is distinguished from the *specific* or *sympathetic* inflammations, by the following circumstances:— 1st, The principal symptoms, that is, redness, pain, swelling, intolerance of light, and lachrymal discharge, are equally developed, and present a correspondence in degree. In the *specific* inflammations, one symptom is commonly predominant over the rest. Intense external redness is seen in catarrhal ophthalmia, often without pain or intolerance of light; in *scrofulous* cases, the highest intolerance, with hot and acrid lachrymation, and spasm of the palpebral muscles, with hardly perceptible redness; in the *arthritic* and *syphilitic*, severe pain in the eye and its neighbourhood, with the other phenomena in a slight degree. In the forms just enumerated, the swelling is inconsiderable in comparison to the particular symptoms now pointed out; but is excessive in the purulent and gonorrhœal ophthalmia. 2dly, The symptoms commence at the same time, and in an equal degree, and continue in this equal proportion to each other throughout. Each symptom also exhibits this uniformity in degree and extension. The redness occupies equally the whole surface of the organ. In catarrhal and strumous cases it is partial, consisting in distension of some fasciculi of vessels, or confined to some part of the organ. In *syphilitic*, *rheumatic*, and *arthritic* ophthalmia, the redness is in the sclerotic coat, and usually forms a zone round the cornea. The pain in ophthalmitis occupies the whole globe and orbital region. In other ophthalmia, it is often less in the eye

In the treatment of all inflammations of the eye, the removal of the cause forms one of the most important and early indications; not, however, that we have it in our power always to trace the precise cause, or, when it is known, to remove it. Its removal, also, will not invariably prevent the disorder from making advance, though certainly it is one of the most likely means of having this desirable effect. Thus, if ophthalmia be excited by the lodgment of any extraneous matter, as a small insect, a particle of gravel, sand, &c. between the eyeball and lid, the extraction of such foreign body must scarcely require any knowledge of surgery to make its necessity plain to any common understanding; the removal of it in particular cases, however, demands surgical skill. The following directions, given by Mr. Lawrence, deserve to be recollected. In order to discover and remove any minute substance that has insinuated itself into the eye, you should first look attentively at the exposed surface of the organ in a good light; if you discover nothing there, you should proceed to depress the under lid, and bring the lower surface of the globe into view, by desiring the patient to look up to the ceiling. If you still find nothing, direct the patient to look in the opposite direction, and raise the upper lid, so as to bring into view the superior surface of the globe. In most instances, the extraneous substances lodge in the concavity of the upper eyelid, and cause exquisite pain. When they are thus situated, you must evert the lid. Take the cilia between your finger and thumb, and draw the lid downwards and forwards; press with a probe steadily against its upper part; then carry the ciliary margin upwards and backwards; you thus turn the lid inside out, and immediately see whether any extraneous body lodges there.\* Particles of metal, imbedded in the cornea, should be removed with a cataract needle.

GEN. VIII.  
SPEC. I.  
Ophthalmitis.

Mode of removing extraneous substances from the eye.

itself than in the parts round the orbit. 3dly, The course of the complaint is very regular, proceeding, when it has once begun, to its full developement, unless it should be interrupted by active treatment. In the other ophthalmia, the complaint altogether, or particular symptoms, often undergo increase or diminution; in some, remissions, and in others, complete intermissions are observed. In catarrhal cases, the patient is often free from complaint during the day; the symptoms return in the evening, and are again diminished or lost in the morning. The symptoms of syphilitic ophthalmia undergo a marked diminution during the day, and show themselves again in severe nocturnal paroxysms. Scrofulous patients, on the contrary, suffer in the day, and are greatly relieved towards the evening. In these cases, too, recoveries and relapses occur suddenly, and succeed each other frequently. 4thly, True ophthalmitis is attended with considerable constitutional disturbance of inflammatory character, while the sympathetic ophthalmia are generally without fever, even in many instances where the inflammation runs high." See Treatise on Dis. of the Eye, by Wm. Lawrence, p. 78. — Ed.

\* See Lawrence on Diseases of the Eye, p. 99. "The directions given in books respecting extraneous substances in the eye, are, in general, of little use. Beer is tediously minute in describing every variety of matter by which the eye can be injured, and in laying down rules of treatment (Lehre, b. i. § 158.); but he does not even mention the simple proceeding of everting the upper eyelid, which enables us to give the necessary relief in the majority of cases. Injections of water, milk and water, and mucilaginous fluids, under the lids, and over the surface of the eye, are recommended: these are of no use, and, indeed, can only add to the irritation which already exists. If any injection could remove the foreign body, the flow of tears which its presence excites, would be sufficient: when it sticks to the concavity of the upper lid, injections are wholly ineffective." Op. cit., p. 101. — Ed.

GEN. VIII.  
SPEC. 1.  
Ophthalmitis.

Protection of  
the eye from  
too much light,  
cold air, ex-  
ertion, &c.

Another indication is to protect the eye from injurious external influences. Thus, as Mr. Lawrence has observed, employment of the inflamed organ irritates it, and increases the inflammatory disturbance. The eye should, therefore, remain perfectly at rest; and even in slighter inflammation, active exertion of the organ should be discontinued, as in reading, writing, &c., although passive exercise of it may be permitted. This rule applies to the sound eye, when the other is the seat of violent inflammation. In the worst cases, the patient should be kept in a darkened room; but, in general, it will be sufficient to moderate the light by the ordinary Venetian blinds, and to protect the eye by the common pasteboard shade, covered with green crape or silk. The inflamed eye should never be exposed to cold air in windy, rainy, or damp weather, and great vicissitudes of temperature should be avoided.

The preceding measures are only to be regarded as auxiliaries to the grand plan to be adopted for stopping the inflammation. To use Mr. Lawrence's expressions, it becomes necessary to institute early, and to follow up steadily, bold and decisive antiphlogistic treatment, for the purpose of preventing any injurious changes in an organ, the perfect state of which is essential to the comfort and enjoyment of life. The disease must be arrested in its early stage, on account of its tendency to bring on the deposition of opaque matter, and to destroy the transparency of the pellucid textures of the eye. The pleura may become opaque, or adherent, without serious inconvenience; but the cornea cannot be deprived of its transparency, or the iris be rendered motionless (or misshapen by adhesions), without the functions of the eye being permanently injured or destroyed.\*

General  
bleeding.

Here local bleeding alone will rarely suffice; and the patient must be bled freely from the arm. In cases of inflammation affecting the entire globe of the eye, in inflammation of the external proper tunics affecting both eyes, or where it is very severe in one, general bleeding should be resorted to. Mr. Lawrence states, that a single large bleeding will, in general, be sufficient; but he is not inclined to measure the quantity of blood to be taken by ounces, but by the effect produced upon the system. He bleeds till the circulation decidedly feels the loss, and, in severe cases, where the eye is in danger, till fainting is produced.

Cupping.

The next mode of taking blood, in point of efficacy, Mr. Lawrence considers to be cupping, either from the back of the neck or the temple, especially the latter, from which part blood can be obtained quickly, and in large quantity.

Leeches.

Blood may be drawn by leeches applied as near to the eye as possible. The eyelids would be the best situation, were not this practice apt to produce an ecchymosis, that causes for a few days an unpleasant appearance. Copious bleedings by leeches, or cupping-glasses, are usually recommended from the temples; but it has been suggested, that the former may be employed with inconceivably more advantage, if applied directly to the mucous lining of the lower eyelid. We learn from Dr. Crampton, that this method has been pursued with almost universal success in the most

\* See Middlemore's Lectures, Med. Gaz. for 1832-33, p. 136.



severe cases in the Royal Military Infirmary at Dublin\* ; and it is said to have the great advantage of not being followed by that erysipelatous affection, which so often follows the application of leeches to the external surface of the eyelids, or even to the temples. This mode of using leeches may deserve more extensive trial.

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SPEC. I.  
Ophthalmitis.

In Mr. Lawrence's opinion, opening the temporal artery is less advantageous and convenient than cupping. We sometimes do not get blood enough in this way, and sometimes there is difficulty in stopping the bleeding. In active inflammation, the practice of scarifying the conjunctiva is decidedly condemned by him, and he thinks that there are very few cases of chronic ophthalmia in which it is beneficial.

Opening the  
temporal  
artery.

Scarifications.

The bowels are also to be cleared out by an active purge of calomel, combined with rhubarb, extract of colocynth, or jalap, and followed by senna, salts, &c. Antimony and nitre may afterwards be given to keep up perspiration, and aperients to maintain regularity of the bowels. In all severe cases, the patient should be restricted to fluid, or spoon-diet ; and, in milder attacks, fermented liquors and animal food ought not to be allowed.

Purgative and  
antimonials.

Low diet.

After these measures have been adapted, blisters may be applied to the back of the neck, or behind the ear. Mr. Lawrence is of opinion, that, in active inflammation, they should never be applied nearer to the organ than these situations.

Blisters.

Large doses of tartarised antimony have been recommended, with the view of keeping up nausea and vomiting, and thus suddenly checking the progress of inflammation of the eye. It seems to have been practised by Dr. Dobson, of Kirkham, as long ago as the year 1773.† While, however, Mr. Lawrence admits, that the plan diminishes the heart's action, lessens the force and frequency of the pulse, and certainly so far diminishes the degree of any local inflammation, he deems the remedy severe, and not to be depended upon.

Treatment.

After the abstraction of blood, and the evacuation of the alimentary canal, calomel may be given in doses of from two to five grains, alone, or combined with a small quantity of opium, and repeated every six or eight hours. The free exhibition of calomel, after depletion, is observed to have a very favourable effect in preventing the changes of structure, so frequently produced by inflammation.‡

Mercury.

This distinguished surgeon has little confidence in local applications ; but he does not object to the use of saturnine collyria, or fomentations, the choice being regulated by the patient's feelings.]

Local appli-  
cations.

\* Crampton on the Application of Leeches to Internal Surfaces. Dublin Hospital Reports, vol. iii. p. 223, &c.

† Edin. Med. Com., iii. p. 411.

‡ See Lawrence on Dis. of the Eye, p. 111.

## SPECIES II.

## OPHTHALMIA EXTERNA.

INFLAMMATION OF THE EXTERNAL TUNICS  
OF THE EYE.

INFLAMMATION SEATED IN THE EXTERNAL TUNICS, ATTENDED WITH INCREASED LACRYMAL DISCHARGE, IF IN THE SCLEROTICA AND CONJUNCTIVA UNITEDLY; BUT WITH MUCOUS, OR PURULENT DISCHARGE, IF THE INFLAMMATION BE OF A SPECIFIC CHARACTER, AND AFFECT PRIMARILY AND CHIEFLY THE CONJUNCTIVA.

GEN. VIII.  
SPEC. II.  
Ophthalmia  
externa.

As, under the term external ophthalmia, may be comprised all inflammations affecting chiefly, or primarily, the outer coats of the eye, the proper tunics, as well as the conjunctiva, and sometimes the eyelids, it is here proposed to notice the following varieties:—

- |   |   |
|---|---|
| α Ophthalmia externa communis.          | Inflammation of the external coats of the eye.              |
| β Ophthalmia catarrhalis.               | Catarrhal, or mucous inflammation of the conjunctiva.       |
| γ Ophthalmia purulenta.                 | Purulent inflammation of the eye.                           |
| δ Ophthalmia glutinosa. Psorophthalmia. | Affecting the conjunctival lining and edges of the eyelids. |

α Ophthalmia  
externa com-  
munis

Terms applied  
to its various  
forms.

The first variety, as Mr. Lawrence has observed, which is common, or simple inflammation in subjects otherwise healthy, varies considerably in degree, from slight congestion of the conjunctiva to acute inflammation of the same membrane, with chemosis, and similar inflammation of the sclerotica and cornea. Under its various degrees and forms, it has been designated by different names. *Taraxis* denotes the slighter cases; *ophthalmia angularis* refers to a particular seat of the disorder; *xerophthalmia* denotes the dryness of the organ in a particular stage of the affection; and *chemosis* is its most violent or dangerous form, on account of the particular swelling of the conjunctiva often attending it, and described in the foregoing section.

Common ophthalmia may be seated in the conjunctiva only, or in the sclerotica and cornea. Although both cases may, without impropriety, be called external inflammation of the eye, they are very different in their symptoms, progress, termination, and treatment.

Differences be-  
tween inflam-  
mation of the  
sclerotica and  
that of the  
conjunctiva.

Simple inflammation of the conjunctiva is, generally speaking, an unimportant affection. In consequence of its loose texture, the vessels of the membrane yield readily; there is little pain or inconvenience; and no danger to the organ. The firmer textures of the sclerotica and cornea yield to distension with pain and slow-

ness; their vessels do not easily recover, so that inflammation is with more difficulty subdued; and the implication of the cornea, with the ready transition of inflammation to the iris, exposes the organ to serious danger.

The symptoms of inflammation, affecting the external proper tunics of the eye, are redness, pain, intolerance of light, increased lachrymal discharge, with more or less febrile disturbance.

To pursue Mr. Lawrence's valuable description, the redness begins on the front of the globe, immediately round the cornea, where it forms a red zone. Numerous blood-vessels may be seen advancing from the posterior part upon the sclerotica, and branching out into numerous ramifications, which are at length lost in the red zone. In inflammation of the conjunctiva, the redness commences in the circumference, the anterior part being at first comparatively free from it, and the sclerotica retaining its natural white appearance. The character of the red tint differs remarkably in the two cases. The vessels distended in sclerotic inflammation, or *scleratitis*, as it is frequently termed, are those seated immediately upon the sclerotic coat; they are therefore covered by the conjunctiva, and, being seen through that membrane, are of a dark rose-red, and sometimes almost of a livid hue, which forms a striking contrast to the bright scarlet tint of the vessels, distended in conjunctival inflammation. The zone, seen around the cornea in the early stage, is also of a rose or pink colour. The redness is uniformly diffused through the sclerotic coat; and, when the inflammation is considerable, a dense arrangement of vessels may be noticed, lying under the conjunctiva, and occupying the whole surface of the sclerotic coat. In inflammation of the conjunctiva, the vessels are not only of a bright scarlet colour, but lie nakedly on the surface of the membrane. When inflammation, without being very violent, is seated in the conjunctiva and sclerotica at the same time, the marked difference in the situation and tint of the two orders of vessels is very manifest.

When the sclerotic coat inflames, the conjunctiva soon participates in the affection; and the cornea, without becoming opaque, assumes a kind of dull appearance. Other common symptoms are, a sense of stiffness and dryness in the eye in the early stage of the disorder; a burning, or aching pain in the organ; a sense of tension, or pressure of it; and a feeling as if sand or gravel were in contact with it, and pain shooting to the back of the orbit and side of the face. Intolerance of light is a marked symptom from the commencement of sclerotic inflammation, and forms another striking contrast between this affection and conjunctival inflammation; for, in the latter, the patient generally opens the eye freely, and experiences no pain from the access of light.

If the inflammation proceed further, the cornea first becomes greyish, and, when chemosis occurs, it turns white, cloudy, and then yellow; a thick, viscid matter, that cannot be discharged by puncture, being deposited in its texture. An effusion of a similar nature also frequently takes place in the anterior chamber, constituting the case termed *hypopium*. Sometimes the cornea is perforated by ulceration; the aqueous humour escapes; the iris becomes adherent to the opaque cornea, with or without prolapsus; and vision is lost. Inflammation of the external proper coats, then,

GEN. VIII.

SPEC. II.

α O. Externa  
communis.

Symptoms.

Scleritis con-  
trasted with  
conjunctival  
inflammation.Diagnosis  
continued.Thick matter  
effused in the  
cornea and  
anterior  
chamber.Differences  
from conj --



## GEN. VIII.

## SPEC. II.

α O. Externa  
communis.tival inflam-  
mation.

## Prognosis.

is distinguished by the redness being originally seated in the sclerotic; by the discharge being lachrymal, not mucous; by the pain and intolerance of light; and by the changes occurring in the cornea. In conjunctival inflammation, there is increased mucous discharge; little or no pain, nor intolerance of light, except at first; and seldom any affection of the cornea. According to Mr. Lawrence, the degree of danger to the eye will depend on the question, whether the inflammation extends to the cornea; and, if it does, on the degree of that inflammation. If the cornea be not involved, there is no risk; or, if the affection of that part be slight, we need not apprehend any injury of vision. The degree of sclerotic redness in the early stage is a criterion, from which we may form an opinion, whether it will be severe, or otherwise. If the case proceeds to chemosis; if the cornea becomes grey or white; or, if matter be deposited in its texture, sight will be more or less impaired.

## Treatment.

With regard to the treatment, it should conform to the directions given under the first species of the present genus; the extent and rigour of the antiphlogistic measures being regulated by the degree and violence of the inflammation.

β Ophthalmia  
catarrhalis.Popular  
names.

The distinct nature of catarrhal ophthalmia, and its origin from atmospheric causes or peculiarities, are expressed, as Mr. Lawrence has well observed, in the terms *cold* or *blight*, under which it is often popularly mentioned. The expression, *mucous ophthalmia*, designates the increased mucous discharge, which is one of its most striking characters. It is inflammation of the conjunctiva, either of the globe, or of the eyelids, or of both, caused by cold, and it corresponds to catarrhal affections of other mucous membranes, as those of the nose and its sinuses, of the fauces, trachea, and lungs. Catarrhal inflammation frequently goes through all these parts, and commonly so in influenza.

## Its nature.

## Symptoms.

The symptoms of catarrhal ophthalmia, as described by Mr. Lawrence, are at first stiffness and smarting; some uneasiness on exposure to light; and external redness. When fully developed, the disorder is characterised by redness, increased *mucous*, not *lachrymal* discharge; inconsiderable pain, and no intolerance of light. The redness is superficial, and of a bright scarlet colour; and at first generally in patches, the whole surface not becoming uniformly red, till the disorder is fully developed. The redness begins at the circumference of the globe, and gradually advances towards the cornea; but, in the commencement, it is confined to the palpebral conjunctiva. Sometimes little ecchymoses appear on the conjunctiva, and sometimes small vesicles, called pustules, generally situated near the edge of the cornea; but there is nothing like chemosis.

When the lachrymal discharge, noticed in the very commencement, stops, its place is supplied by increased secretion of mucus from the inflamed membrane itself. This is at first thin, afterwards becomes thicker, assuming a whitish, or yellowish, appearance, and sometimes resembling pus. Whenever catarrhal inflammation of the eye is at all considerable, the eyelids participate in the disorder; and a pain and sense of weight are felt about the frontal sinuses and antrum, with headach, disordered stomach, foul loaded tongue, and other febrile symptoms. In the day-time,

the redness is less ; there is no pain, nor intolerance of light ; but, in the evening, the disorder undergoes an exacerbation.\*

Catarrhal is distinguished from purulent ophthalmia by its much milder character ; and Mr. Lawrence thinks, that they differ rather in degree, than in any other essential point, unless it should be proved, which he thinks is not yet the case, that purulent ophthalmia is contagious.

As the affection is not a serious one, and does not produce injurious consequences to the organ, venesection is not in general necessary ; but, in a young subject of full habit, with both eyes severely attacked, a full blood-letting would be proper. In ordinary cases, cupping and leeches will suffice. An active aperient, and if the tongue be foul, an emetic, will advantageously follow the loss of blood. Saline and sudorific medicines may then be given, and occasional purgatives. The patient is to be kept warm, take plentifully of diluent drinks, and no animal food, nor fermented liquor. The pediluvium, or warm-bath, may be useful, and, perhaps, after a few days, a blister on the nape of the neck. Where the case seems to depend on a disordered state of the alimentary canal, an emetic, and an active purgative containing calomel, or the latter alone, followed by mild aperients and low diet, will often suffice, without the abstraction of any blood. The best local applications are fomentations. The sticking of the eyelids together, during the night, should be prevented by inserting a little of the unguentum plumbi† between the tarsal edges in the evening. The eye will not require a shade, unless the light be strong and offensive. Cool air will also be pleasant to the patient's feelings, and tend to remove the sensation of sand in the eye. ‡

Purulent ophthalmia of adult subjects, the third variety of external inflammation of the eye, here to be treated of, is a case of the most acute kind, attended with an increased secretion, which, in colour and consistence, resembles pus. The affection begins in the lining of the eyelids ; extends to the mucous surface of the globe ; and when violent and not checked, it soon attacks the

GEN. VIII.

SPEC. II.

β O. Catar-  
rhalis.Differences  
from purulent  
ophthalmia.

Treatment.

γ Ophthalmia  
purulenta.Mr. Lawrence's  
description of  
it.

\* There are exceptions to this statement : a young lady in Bedford Place, whom the editor is now attending (Dec. 1833) for catarrhal ophthalmia, is always considerably better in the evening. This fact is noticed by Mr. Middlemore : — " Sometimes," says he, " the uneasiness, occasioned by catarrhal ophthalmia, is increased during the day, and much relieved during the night ; or, if that be not the case, there will be a distinct remission, and exacerbation of the symptoms at regular intervals." *Med. Gaz.* for 1833, p. 314. — ED.

† R. Liq. plumbi acet. ʒss; ung. cetacei ʒj. Misce.

‡ Some practitioners resort to stimulating applications : thus Mr. Melin dropped into the eye a solution of the nitrate of silver, four grains to the ounce of distilled water twice a day. (*Report of Ocular Diseases, &c. Lond. Med. Phys. Journ.*, vol. liii. p. 184.) Dr. Ridgway used a stronger solution, ten grains to the ounce. Mr. Mackenzie also puts a large drop of a solution of the nitrate of silver into the eye, in the proportion of from two to four grains to the ounce ; foment the eye thrice a day with a collyrium of gr. j of the oxymuriate of mercury in eight ounces of water ; and applies to the edges of the eyelids, at night, an ointment, containing gr. iss of red precipitate to the drachm. (See Mackenzie's *Practical Treatise on Diseases of the Eye*, p. 334.) Mr. Guthrie employs the nitrate of silver ointment, ten grains to ʒj. These stimulating local applications are alleged to supersede the necessity for bleeding. Mr. Middlemore says, however, that he cannot recommend the ung. nigrum for catarrhal ophthalmia. *Lect. on Dis. of the Eye*, *Med. Gaz.*, p. 316.

GEN. VIII.  
SPEC. II.  
γ O. Purulenta.

cornea. The whole texture of the conjunctiva then swells and becomes thicker; its vascular texture is developed; and its surface acquires an intensely bright red colour. The mucous surface is rendered villous, pulpy, granular, like the secreting surfaces of the alimentary canal; and, from the secreting surface, thus developed, flows the puriform discharge. This form of disease does not, like others, produce suppuration within the eye.\* The changes in the cornea are sloughing, ulceration, and opacity. The sloughing and ulceration often expose the anterior chamber, causing prolapsus of the iris, loss of the humours, and collapse of the tunics, so that not only the function, but the very form of the eye is destroyed.

The affection has been described under various names; as *purulent*, *Egyptian*, and *contagious ophthalmia*.

Symptoms and  
progress of the  
disease.

In the first stage, there is redness of the palpebral conjunctiva, with some stiffness of the eyelids; and a little whitish mucus is seen on the membrane; but this stage is seldom seen by the surgeon. The disease soon extends to the globe, in what may be called its second stage; and now we see it marked by high vascular action, and bright redness, great tumefaction of the membrane, and profuse discharge. Frequently, there are red patches, apparently of ecchymosis. The swelling of the conjunctiva on the globe often raises it in the form of chemosis, which is sometimes so considerable as completely to hide the cornea. At this period, the whole eyelid swells from an effusion of serum in its texture. At first, a stiffness is felt in the eyelids and globe: and then a sensation is experienced, as if sand, or gravel, were in the organ. As the inflammation extends to the globe, the pain becomes severe and exasperating; and is deep-seated in the eye, often with throbbing of the temples and headach. "I have seen (says the younger Dr. Frank) the bravest soldiers cry like children for a whole night; and have heard them declare, that they would readily allow the affected eye to be torn out, if they could thereby get rid of the pain."†

In the third stage, there is a gradual remission of the symptoms: the swelling, pain, and discharge are lessened; the external œdema ceases; and the swelling of the conjunctiva being no longer counterbalanced, the palpebræ are everted, especially the lower.

Granulated  
state of the  
conjunctiva.

A thickened and granulated state of the lining of the eyelids, with consequent opacity and vascularity of the cornea, are remote effects of the inflammation when it becomes chronic. Some unnatural redness of the membrane, with slight swelling, and a little discharge, often continues for a long time; and there is a great tendency to relapse.

Prognosis.

If the cornea retain its natural transparency, we may expect to arrest the inflammation by vigorous treatment; if it be dull, and deep-seated pain in the eye and head announce extension of inflammation to the globe, the event is doubtful.

\* Dr. Vetch never saw the formation of pus in the chambers of the aqueous humour from purulent ophthalmia (On Dis. of the Eye, p. 64.); and a similar remark is made by Mueller (Erfahrungssätze, p. 68.; see also Lawrence on Diseases of the Eye, p. 180.) Yet, Mr. Middlemore speaks of suppuration of the eyeball as one of the occasional results of the disorder. See Med. Gaz. for 1833, p. 410. — Ed.

† De Peste, Dysenteria, et Ophthalmia Ægyptiaca, 8vo. Vienna.



This is the disease, concerning which so much has of late years been written by French and English surgeons and physicians; which proved so extremely destructive to the armies of both nations in their respective expeditions to the banks of the Nile; and the real nature and cure of which have been discussed in modern times with no small degree of acrimony in our own country, but at the same time with much benefit to the public, from the facts and the ingenuity which the controversy has brought to light. There appears little doubt, however, that it has occasionally existed even in our own day, in ships of war, antecedently to the expedition to Egypt, of which Sir Gilbert Blane has given two examples\*, though it does not seem to have been a subject of much attention at the time.

This disease was at first ascribed to the minute and glassy spiculæ of the sands of the Egyptian plains. But it has since been referred, either to a peculiar miasm generated in marsh-lands, or to sleeping on damp or swampy ground, with insufficient covering, and surrounded by a moist atmosphere. And as these causes exist in other parts of the world than in Egypt, the disease is noticed in other countries, and, as we shall presently remark, appears to have been known in former times. The most contested points, however, in the history of the disease are, whether, after the disorder has been once produced by the above, or other unknown causes, the matter secreted by the conjunctiva be contagious or not? and whether the extensive spreading of the affection afterwards should not be imputed to this circumstance, rather than to epidemic causes?

[The generality of practitioners now incline to the affirmative on both these questions. In a former edition of this work, it was observed by Dr. Good, that the matter is impregnated with a specific contagion; and hence the disease is propagated with great rapidity between those who come in contact with each other by sleeping together, or using the same towels. He had known it to be caught by a surgeon's assistant, merely in consequence of syringing the eyes of a patient; a part of the discharge having, from the force of the syringing, spurted into one of the assistant's eyes, which was for some days in a state of danger. Sir Patrick McGregor†, in the account which he has given of this affection, as it occurred in the Royal Military Asylum, mentions three instances in which the nurses of the establishment caught the disease, either whilst syringing the eyes of patients, or from having employed sponges used by the children.

It is curious to find, however, that Assalini and all the surgeons who accompanied the French expedition to Egypt, never entertained any belief of the contagious nature of the disease. Not long since, Mr. Lawrence also regarded the doctrine of contagion as involved in doubt. In support of the opposite view, he remarks, that in all cases, where collections of individuals labouring under it have been separated or dispersed, as when troops are disbanded, and go into civil life, the complaint is put a stop to, and does not extend itself. Now, if it were contagious, and capable of producing

GEN. VIII.

SPEC. II.

γ O. Purulenta.

Nature of the disease and mode of treatment, of recent discovery.

How accounted for at first.

How at present.

Whether contagious.

Considerations against the doctrine of contagion.

\* Select Dissertations, &c. p. 215.

† Trans. for the Improvement of Med. Knowledge. vol. iii.

GEN. VIII.  
SPEC. II.  
γ O. Purulenta.

a like disease in others, we should suppose, that this would be the very way to spread it all over the country; but, we find it the most effectual mode of putting a stop to the disorder. There is no dissemination of the complaint in the families, or districts, to which the soldiers, or other persons so afflicted, return. Yet, in opposition to this statement, it is to be remembered, that the extraordinary and increased prevalence of purulent ophthalmia in the army and elsewhere in this country, since the return of our troops from Egypt in 1801, is ascribed to the importation of the infection by soldiers labouring under the disease. If a healthy regiment also enter barracks, which have been quitted by another corps, more or less afflicted with the complaint, experience proves, that the newcomers are almost sure to suffer. If the facts of inoculation by contact, mentioned by Sir Patrick McGregor, Mr. Middlemore \*, and Dr. Good, be unimpeachable, such affirmative evidence amounts to a proof of the infectious character of the disorder, and cannot be in the slightest degree invalidated by the result of Mr. Mackesy's † bold experiment of applying to his own eyes a rag, soaked in the purulent discharge from the eyes of three of his patients; but without contracting the disease.

Disease sometimes arises from other causes.

Mr. Lawrence does not however venture so far as to assert, that purulent ophthalmia is not contagious; but merely that it is a point requiring further proof. He considers, that there is abundant evidence, that the disease arises from other causes than from the application of matter from the eyes of one individual to those of another. Many patients went to the Ophthalmic Infirmary, in whom he could trace no connexion whatever with persons labouring under the same affection, and yet they had decided purulent ophthalmia. According to his experience, purulent inflammation may be produced by the action of common causes, without the application of any morbid matter to the eye. But, when it is once produced, it is capable of propagating itself, under particular circumstances, in a way which we cannot easily distinguish from a contagious propagation. When individuals are crowded together in great numbers in confined habitations, sleeping in the same rooms, and using the same linen and the same utensils, and not carefully attending to personal cleanliness, deleterious influences on human health are known to be produced, though their nature and mode of action are obscure. The bad effects are increased by unwholesome diet, insufficient clothing, and inadequate ventilation. Hence, the only instances of the disorder spreading extensively and virulently, have been in barracks, ships, schools, prisons, and workhouses. ‡

Mr. Lawrence's opinions.

\* Lectures on Dis. of the Eye, in Med. Gaz. for 1833, p. 410.

† See Edin. Med. and Surg. Journ., vol. xii.

‡ "If contagion exist," says Mr. Lawrence, "it must be very different from that of small-pox, scarlet fever, or measles; much less active and certain. At the same time, when I look to the instances in which the affection has prevailed extensively; when I see how the disease has gradually spread through large bodies of men, and how effectually its progress has been arrested in so many cases by insulating the diseased, and preventing all intercourse between them and the healthy, I feel fully satisfied that the disease is contagious under certain circumstances and conditions." (On Diseases of the Eye, p. 200.) Mr. Middlemore makes the following inferences:—1st, That contagion alone will not, except in very rare instances, produce this form of purulent inflammation of the eye, but

In the treatment of purulent ophthalmia, two indications present themselves: the first is, to check the inflammation by antiphlogistic means; the second is, to restore the altered texture of the conjunctiva to its natural state by the use of astringents. In this manner, not only may the ulceration of the cornea and other destructive effects on vision be prevented, but, as Mr. Lawrence observes, you will also avert that chronic thickening and granulation, which are so obstinate and troublesome.]

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SPEC. II.  
O. Purulenta.  
Treatment.

The earliest mode of treatment, pursued by the French, as we learn from the account of Dr. Antonio Savaresi, as well as of Dr. L. Frank, consisted in little more than the general treatment of the common acute ophthalmia; as bleeding from the jugular vein or temporal artery, blisters, saline purgatives, anodyne lotions, and a low diet. The bleedings, however, do not appear to have been very copious. And yet the first writer tells us, that, by this process alone, he was so fortunate, that, out a thousand or thereabouts, who were confined in the French military hospitals in Egypt under his care, not more than two lost their sight completely, though some others suffered the loss of one eye.

Bleeding.

In the hands of our own army practitioners, the plan of treatment, thus limited, completely failed, and the bleeding, which was almost solely depended upon, was carried, from the first day of the attack, and repeated for several days afterwards, to as great an extent, not only as fainting, but as life itself would allow. The first accounts we had of this practice seemed to show, that it was in the highest degree successful\*: but later experience has not justified the representation, and the extensive lists of blind pensioners, supported by the Chelsea and Greenwich hospitals, are a sufficient proof, that the success of the evacuating plan was considerably exaggerated. A free abstraction of blood by leeches applied to the conjunctive tunic itself, does not appear to have been tried till of late by Dr. Crampton, in the Dublin hospital, where it seems to have been of very decided advantage when employed in the first stage of the disease.

Not generally successful,

though carried to its utmost extent.

[Although bleeding seems not to have been invariably capable of checking the disease, the reason of this may perhaps have depended upon its not being combined with the seasonable employment of other judicious measures; and the impossibility of

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requires to be aided in its operation by constitutional susceptibility, want of cleanliness, disordered health, exposure to a brilliant sun, or the damp night air, or to dust, or to peculiar conditions of the atmosphere, &c. All, or any of these circumstances, he thinks, will ensure the operation of contagion. 2dly, Purulent ophthalmia may arise without the aid of contagion, as occurs in many instances of relapse, and in some of those cases, in which one eye becomes affected as soon as the other has nearly recovered; and, finally, the disease has occurred to a ship's crew during their voyage, whose eyes were not affected at the commencement of the voyage, nor until some time afterwards, and who had no communication with the men of any other vessel, until the completion, or nearly the completion of their voyage. (See Med. Gaz. for 1833, p. 411.) It seems manifest then, that the disease may begin as an epidemic, and, under certain circumstances, at least, propagate itself also by contagion. In the same way, the Asiatic cholera is now commonly believed to extend itself, both as an epidemic and as an infectious disease. — Ed.

\* Account of the Ophthalmia which has appeared in England since the return of the British army. By J. Vetch, M.D.



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γ O. purulenta.

Other measures  
necessary.

Astringents  
and tonics.

invariably removing soldiers from those influences by which the disease is kept up. Certainly, at the present day, and in this metropolis, purulent ophthalmia is treated with great success, which is in a great measure ascribed to free bleeding in the early stage. Mr. Lawrence recommends copious venesection, so as to produce syncope, as the first proceeding.\* If the symptoms remain urgent, he advises the bleeding to be repeated. Subsequently, cupping may be practised on the temple, or numerous leeches applied round the eye, and repeated. Mr. Middlemore prefers placing them close to the tarsal margin of the lower eyelid. Cold or tepid washes should be used. Brisk purgatives in the first instance, and afterwards milder aperients, will be necessary, with low diet and rest. After these plans have been adopted, blisters are to be employed. Such means are to be repeated and continued till the œdematous swelling of the eyelids, the chemosis, and the pain are reduced. The conjunctiva will now be paler, and assume a relaxed and flabby appearance, the discharge still continuing in abundance.

In this stage, astringent lotions are to be applied to the organ, tonic medicines prescribed, and a better diet allowed. Mr. Lawrence prefers, at first, a solution of alum, and afterwards one of the nitrate of silver, or the undiluted liquor plumbi acetatis. Two or three drops of either of the latter liquids should be introduced between the eyelids twice or thrice a day, and the eye may be bathed occasionally in the intervals with the alum lotion. The ung. hydrarg. nitrat. may also be applied to the edges of the eyelids at night. Mr. Guthrie, as is well known, is in the habit of using a strong ointment, composed of 10 grs. of the nitrate of silver, mixed with a drachm of lard, or the ung. ectacei, in nearly every form and stage of inflammation of the conjunctiva, attended with increased discharge from its surface. As an early application, however, it is disapproved of by Mr. Middlemore, though he admits that the stimulating plan is extremely useful, as soon as the acute symptoms are subdued. (See Med. Gaz. for 1833, p. 412.) Then also, bark, cascarilla, and dilute sulphuric or nitric acid, with occasional aperients, are the best medicines. At first surgeons should carefully watch the effect of astringents; for, if the pain continue after their use, with an increase of redness, they must be left off, and antiphlogistic measures be resorted to again.

When the cornea is in a sloughing or ulcerating state, accompanied with debility, the patient should have wine, porter, good diet, and the sulphate of quinine, and use local astringents. †]

Improvement  
by Saunders:  
who discovered  
that the in-  
flammation  
consists of two  
stages.

The late Mr. Saunders was the first in the present day to discover, that the blindness which is so apt to follow, even after the first attack of virulent inflammation has subsided, proceeds from the friction upon the transparent cornea, of innumerable irritating granulations, as he denominated them, thrown forth from the surface of the tunica conjunctiva that lines the interior of the palpebræ, and which become a new source of inflammation, less violent indeed, but as fatal in its effects; and the disease has hence been very correctly

\* "If the symptoms be severe, and the patient tolerably strong, bleed until the pain is relieved, the chemosis diminished, and the sense of tension and throbbing removed." Middlemore, in Med. Gaz. for 1833, p. 411. — Ed.

† See Lawrence on Diseases of the Eye. 8vo. 1833.

divided into two stages, that of primary and that of secondary or apparently granulating inflammation. Mr. Saunders endeavoured to cut the disease short in its first stage by exciting nausea, and maintaining it for a considerable period of time, so as to lower the living power, and hereby take off the inflammatory action. And where the disease had proceeded to what he called the granulating stage, he removed the minute caruncles from the tunica conjunctiva by cutting them off with a pair of scissors, and afterwards applied a solution of nitrate of silver to prevent their sprouting again. Instead of the nauseating process employed in the first stage, Sir William Adams boldly prescribed active and powerful vomiting, continued for eight or ten hours, by giving two grains of tartar emetic at first, and continuing one grain every half hour afterwards, through the whole of this period; by which violence a change of action, or new but more manageable excitement, is often produced in the eye, and the disease is stopped in the course of ten or twelve hours from its onset. [The editor need scarcely observe, that, though most inflammations may be checked by the emetic treatment, the plan is severe, and less to be depended upon, than free bleeding and other antiphlogistic remedies.]

Where the second or granulating stage has commenced, Sir William Adams used to cut away the diseased surface of the conjunctiva, instead of the granulating points alone; by which the morbid action is destroyed, not only with less pain, but far more radically and effectually; and he afterwards employs a solution of alum, instead of a solution of nitrate of silver, as the latter is hereby rendered unnecessary; not to mention that the agony it excites is often intolerable, and that a new inflammation has followed, in some instances almost as dangerous as the original inflammation itself. Emetics, indeed, have long been occasionally made use of as a mean of relieving inflammation in the eyes, but not in the particular kind before us, nor perhaps at any time of the inflammation with the precise object in view, proposed by Sir William Adams. Stoll, for instance, employed them successfully in periodic ophthalmies\*; and Dobson, as already observed, in ophthalmies of a like chronic kind, accompanied with nervous debility; the bark being interposed between their repetition.† The nearest approach, however, to this practice which I have met with on medical record, is Dr. Dobson's case, already noticed in the foregoing pages.

Yet, though the emetic plan, carried to this extent, and employed for the express purpose just stated, does not appear to have been had recourse to in this form of ophthalmia till our own day, it has been very clearly shown by those who have critically and historically examined into the subject, that this very affection was long ago known to the world, and has been rationally as well as successfully treated in different ages. As the Greeks were much better acquainted with Egypt than ourselves, it is hardly to be supposed that it could have escaped their notice, and it has hence been suggested, with much probability, that it is referred to by them under the term *PLADAROTIS*‡; while it is ingeniously affirmed by a

GEN. VIII.  
SPEC. II.  
γ O. Purulenta.  
Management  
of the first  
stage.  
of the second  
stage.

In both cases  
further im-  
proved by  
Adams.

Emetics long  
known to be  
useful in  
ophthalmia;  
and employed,  
but upon a  
different  
principle.

The pladarotis  
of the Greeks.

\* Nat. Med., part ii. p. 102.

† Med. Comm. Edin., vol. iii. p. 444.

‡ Galen. Isag., 215. c. 6. vol. v. fol. 1542.

## GEN. VIII.

## SPEC. II.

γ O. Purulenta.  
or mulberry  
eyelid of earlier  
English sur-  
geons :

especially of  
Read.

Treatment of  
granular con-  
junctiva in the  
chronic stage.

learned critic of our own day to have been described by the old surgeons of our own country under the expressive appellation of the MULBERRY EYELID.\* There can, however, be no question that the ophthalmia before us was well known to them, under whatever name described; and that even the *granulations* of the second stage, as they are incorrectly denominated, and which are rather enlarged and indurated cryptæ of the conjunctiva, had not only been noticed by them, but were even removed by some of the most approved methods of modern surgery: since it is expressly recommended by Read, who flourished nearly a century and a half ago, that, "if they be thick and gross, they must be cut away dexterously with the point of a lancet, and afterwards let the place be touched with a little fine salt, alum, or copperas water."† This, however, is not mentioned with a view of deducting from the merit of Mr. Saunders or of Sir William Adams; since the practice, and even the name of its original inventor, seems to have been long lost sight of in the annals of chirurgical science, and consequently the revival of such a practice, and a detection of its benefits, are as much a discovery now as it was in the time of Read. [At the present day, the practice of cutting away the granulations is less frequently adopted, than that of touching them with nitrate of silver or sulphate of copper; experience having proved, that they are more apt to grow again after the use of the knife or scissors, than after that of astringents‡ or mild escharotics. The eversion of the eyelid, frequently remaining after an attack of purulent ophthalmia, may also be speedily cured by touching the surface of the thickened conjunctiva with these applications, which have the effect of restoring to it a healthy surface. The plan, however, is only right in the perfectly chronic stage, or rather a stage subsequent to those of the original complaint.

First stage, de-  
scription of.

With respect to the *purulent ophthalmia of new-born children*, it usually comes on within a week from birth. Both eyes are mostly affected, but they are not first attacked exactly at the same time. In the first stage, it is confined to the mucous lining of the eyelids, which are remarked to adhere together when the child wakes. Their edges are redder than natural, especially at the corners; and the access of light to the eye produces pain, and makes the child shut it. If at this period the eyelids be everted, their lining will be found to be red and villous, and a little white mucus will be seen lying on the inside of the lower eyelid.

Second stage.

In the second stage, the inflammation extends from the palpebral conjunctiva to that covering the eyeball; the vascular congestion and redness are much augmented; the eyelids swell and become red even externally; from the inflamed membrane there is a copious secretion of purulent fluid, which glues the edges of the eyelids together, and then accumulates under the latter parts, or pours out over the face, staining the cap and linen. As the light is very painful, the child keeps the eye constantly shut, even

\* Quarterly Journal of Foreign Med., vol. i. p. 403.

† Short but exact Account of all the Diseases incident to the Eyes. Lond. 2d edit. p. 96. 1706. See also Quarterly Journ. of Foreign Med., ut *suprà*.

‡ Mr. Lawrence gives the preference to solutions of alum, sulphate of copper, or lunar caustic, or the liquor plumbi acetatis. On Dis. of the Eye, p. 216. — ED.



if the swelling of the eyelids should not already close it. In this second stage, the whole of the conjunctiva is swollen, of an uniform bright scarlet colour, and presents a villous surface. It is further remarked by Mr. Lawrence, that the close adhesion of the membrane to the tarsi prevents the palpebral conjunctiva from swelling much; but the loose folds between the lid and the globe become greatly enlarged, forming red tumid rolls, finely granulated. These folds, pressed on by the orbicularis, evert the tarsi, causing ectropium of one or both eyelids. This eversion particularly takes place when the child cries, or the surgeon attempts to examine the eye by separating the eyelids. Sometimes the upper eyelid is so swelled that it hangs completely over the lower. During the night, the eyelids become so adherent to each other that they cannot be opened in the morning till after they have been soaked with warm water. When they are separated, the eye is completely concealed by the discharge; we wipe it away with a soft rag, and there is still enough to cover the globe and hide the cornea. If the disease should not be checked, it extends to the cornea, and thus may reach the interior of the globe. Some one or more of the following changes are now produced: general or partial sloughing of the cornea; ulceration or opacity of the same part; adhesion of the iris to the inflamed or ulcerated cornea, or suppuration of the eyeball, which last occurrence Mr. Middlemore says has been denied by Mr. Saunders on very insufficient grounds.\* In the third stage, there is a gradual abatement and cessation of all the symptoms; the redness, swelling, and discharge are diminished; the child opens the eyes more readily to the light; and no ectropium takes place. The opportunity of seeing whatever changes may have been produced by active inflammation is now afforded.

When the complaint is severe, the infant becomes restless, and its bowels are disturbed; and the sloughing stage is attended with paleness and debility.

With regard to the causes of purulent ophthalmia in infants, it appears, that, in a large proportion of instances, the mother is affected with some kind of vaginal discharge, to which the child's eyes have been exposed during parturition. Hence, the natural inference is, that the disorder is excited by the actual contact of the matter: and the tolerably regular appearance of the disease on the third day corroborates this notion. Indeed, some facts mentioned by Mr. Lawrence and Mr. Middlemore† also tend to confirm this view of the subject. Yet, the former observes, purulent ophthalmia is often seen in children of healthy mothers, or mothers who at least declare themselves to be free from any kind of discharge. A declaration of this sort, however, coming from a woman whose child is attacked about three days after birth, is of course incorrect. Whatever may be the fact, with regard to

GEN. VIII.

SEC. II.

O. Purulenta.

Ectropium produced.

Occasional consequences.

Third stage.

Causes.

\* Middlemore's Lectures on Dis. of the Eye, as published in Lond. Med. Gaz. for 1833, p. 508.

† Lond. Med. Gaz. for 1833, p. 508. "All infants," says he, "are subject to the same change of residence, exposure to light, and to cold, &c., although only a small portion, it is presumed, are destined to pass, in their exit from the uterus, through a canal moistened with morbid secretions." The conviction of Mr. Middlemore is, that this disease is produced by the contact of morbid vaginal secretions. — *Ed.*

## GEN. VIII.

## SPEC. II.

γ O. Purulenta.

Whether from contagion?

Other circumstances conducive to the disease.

contagion being an exciting cause of this purulent ophthalmia, Mr. Lawrence adverts to other circumstances, which undoubtedly promote its occurrence. He says, that it is most frequent and destructive in weakly children, and such as are exposed to bad air, cold, insufficient clothing, and deficient nutrition. It is more frequent in premature children, than in those born at the full time; in twins, than in single children; in newly-born infants, than older children; and in those, than in adults. It is more frequent in damp and cold, than dry warm weather; and amongst the children of the poor, than those of the upper classes. In the Foundling Hospitals of Paris, Vienna, Petersburg, and Moscow, which receive all infants presented, the disease is particularly prevalent and unmanageable.

## Prognosis.

When the cornea remains clear, the prognosis is always favourable; but if this membrane has sloughed, or ulcerated extensively, loss of sight is unavoidable. Even if the cornea be of a dull white, or has begun to lose its transparency, vision may be lost or injured, as it is most likely that ulceration and prolapsus of the iris, or permanent opacity, will ensue.]

## Treatment.

I cannot say that, in any instance that has fallen within my own range of practice, I have seen all the benefit from the use of Bates's powerful and stimulant astringent, known by the name of aqua camphorata, which Mr. Ware ascribes to it. I have known it, at times, check the discharge, but do almost as much mischief from the pain it excites, and the irritation produced by very long fits of restlessness and crying, which are sure to follow.

Aqua camphorata of Bates.

Solution of alum preferable, in conjunction with other means.

The plan that has proved most effectual, in my own course of observation, is, to syringe the eyes thoroughly, so that the whole of the purulent discharge may be washed out, with a solution of alum in water, in the proportion of not less than a grain to an ounce: to continue this syringing three times a day, to keep the bowels open, scarify the gorged vessels of the conjunctiva, where it can be done, or apply leeches to their under surface, and surround the forehead lightly and loosely with folded linen, wetted with a lotion of an ounce of the liquor ammoniæ acetatis mixed with seven ounces of water, and kept cold in a bucket of ice. [Mr. Lawrence has seldom found it necessary to use more than one leech, which he applies to the red swelling of the upper eyelid: even this, he says, sometimes renders the infant quite pale. In the most robust children, he would not advise more than two leeches; one to each eyelid; or to the upper eyelid of each eye.]

Leeches.

Aluminous solution, how to be applied.

The child, in order to receive the full benefit of the solution of alum, should have its head laid flat between the knees of the operator, with the face uppermost: the lids should be separated from each other by the fingers, or, if necessary, as it almost always is, by the assistance of a blunt silver spatula, or some other blunt instrument, and the point of the syringe loaded with the astringent lotion should then be introduced between them and convey its contents all around: the syringing being repeated till the whole of the collected matter is washed away. The pain produced by the use of this solution is trifling, and the child ceases to cry almost as soon as the operation is over.

Aperients.

[In the early stage, Mr. Lawrence prefers a saturnine lotion, made with rose-water. He also directs the bowels to be kept

open with castor-oil, or magnesia; and when the inflammation is active, and the tongue white, he lets the purgative medicine be preceded by a grain or two of calomel. He does not approve of blisters for young children.

The agglutination of the eyelids is to be prevented, and the exit of the discharge promoted, by frequently bathing them with tepid water, or milk, and applying a little lard, or fresh butter, to their edges.

The inflammatory stage having been subdued, astringents are to be employed. Mr. Lawrence uses a solution of alum in the proportion of from two to ten grains of alum to each ounce of water, according to circumstances. This lotion is to be carefully injected under the eyelids, three or four times a day, so as to cleanse out all the purulent secretion; and, in the intervals, a piece of rag, wetted with the same wash, may be laid over the eye. If the alum lotion ceases to have effect, a solution of nitrate of silver, in the proportion of two grains to each ounce of water, may be dropped into the eye, two or three times a day.\*]

If, when the inflammation begins to subside, an ulcer be detected on any part of the cornea, and especially if it be over the pupil, a solution of nitrate of silver, in the proportion of a grain to an ounce of water, should be dropped into the eye night and morning after the syringing is over, and the eye be kept open for about half a minute, so that the solution may not be wiped away suddenly by the closing of the lids, but may fairly lie upon the ulcer and float over it for this period of time. The sulphate of quinine should also be given dissolved in a small quantity of water, to as great an extent as the infant can bear it, [or the extract of bark, broken down, and blended with milk may be prescribed, as advised by Mr. Lawrence;] and if looseness be produced, it should be checked by a drop or half a drop of laudanum in each draught. Prussiate of potash is also a very good astringent for contracting the area of the ulcer, and expediting the healing process; and may be used instead of the solution of the nitrate of silver in the form of an ointment, by means of the unguentum cetacei. By a careful perseverance in this process, I have not only seen ulcerations on the cornea heal speedily, but in one or two instances, without leaving any cicatrix to impede vision, even where the ulceration has been seated over the pupil.

[The varieties of purulent ophthalmia, said to arise from metastasis of gonorrhœa from the urethra to the eyes †, and from the inadvertent application of the urethral discharge to the eyelids, hardly require a particular description in a work of this nature.]

\* The practice of using powerful stimulants in the early stage is strongly condemned by Mr. Middlemore. "Let the acute stage pass by; let the secretion become diminished; and the tense, florid state of the conjunctiva be exchanged for a comparatively pale, flabby appearance of that membrane, and then," he admits, "either the undiluted liquor acetatis, or the strong nitrate of silver ointment (ten grains to a drachm), may be advantageously employed." See Middlemore's Lectures on Diseases of the Eye, as published in Med. Gaz. for 1833, p. 511. — Ed.

† This particular cause, which is admitted by Richter, Scarpa, and Beer, is rejected by Mr. Lawrence, because "gonorrhœal ophthalmia may occur while the discharge from the urethra continues, and since it does not take place when that discharge is stopped." On Dis. of the Eye, p. 229.; see also his Treatise on the Venereal Dis. of the Eye. — Ed.

GEN. VIII.  
SPEC. II.  
O. Purulenta.

Where an ulcer is detected, a solution of nitrate of silver.

How to be applied.

Sulphate of quinine with laudanum if necessary.

Prussiate of potash in the form of an ointment.



GEN. VIII.

SPEC. II.

δ O. Glutinosa.

The psor-  
ophthalmia of  
Plenck and  
Ware.

Description.

δ *Ophthalmia glutinosa*, so called in the present work, is the psor-ophthalmia of Plenck and Mr. Ware ; [the idiopathic inflammation of the glands of the eyelids, of Beer, and the catarrhal inflammation of the eyelids, of various modern writers ;] and consists in an inflamed state of the small sebaceous glands, whose duets, arranged in a row on the edge of each eyelid, pour forth a viscid matter that incrusts and hardens. [It appears to Mr. Lawrence, however, that the mucous membrane is the primary seat of the disease, and that the Meibomian glands, if diseased at all, are affected secondarily.\*] During sleep, when the lids have been for some time in contact, the matter glues them together so firmly, that they cannot be separated without many a painful effort. This matter, instead of being mild and lubricant, as in health, is now not only viscid, but acrimonious and erosive ; whence the eye is irritated, and the edges of the lids ulcerated ; and the complaint is apt to become chronic, and will sometimes last for years, or even for life, in which state it is termed lippitudo.

Causes.

The disease is not unfrequently produced by small-pox and measles ; occasionally by common ophthalmia from cold or any other causes, and in a few instances, though rarely, from a sty. Sometimes it appears to be the result of a scrofulous habit.

Treatment.

[In the acute stage, cupping or leeches, tepid lotions, mild ointments, and active aperients, are called for, followed up, if necessary, by a blister.] In the chronic stage, it is best attacked, and perhaps only to be cured, by such local stimulants as may excite a new action or inflammation, that may be more manageable. The practice of M. St. Yves was here very bold : he touched the ulcers on the edge of the eyelid with lapis infernalis, and thus cauterised the morbid surface. The unguentum hydrargyri nitratis, or the older form entitled unguentum hydrargyri nitrati, has of late been used with equal success, and with far less danger of injuring the ball of the eye. The best way of using it is to take up a little of it with a camel-hair pencil, and apply it along the edge of each eyelid.† Or a drop of spirits, as vinum opii, ether, or Riga balsam, may be allowed to fall into the eye in the same manner, and be repeated daily. [Besides local applications, the compound calomel pill, and other alterative and aperient medicines, are frequently necessary.]

\* Lawrence on Dis. of the Eye, p. 158.

† Other applications in common use are Janin's ointment, composed of Armenian bole and tutty, of each ʒij. white precipitate ʒj. and lard ʒss.; Singleton's, or the golden ointment, the active ingredient in which is orpiment, or the sulphuret of arsenic ; and ointments containing the red precipitate in various proportions. Mr. Mackenzie puts from twelve to twenty grains of it to an ounce of lard. See Practical Treatise on Dis. of the Eye, p. 138. — Ed.

SPECIES III.  
OPHTHALMIA INTERNA.

INFLAMMATION OF THE INTERNAL PARTS  
OF THE EYE.

ACCOMPANIED WITH LESS EXTERNAL APPEARANCE OF DISEASE,  
THAN THE PRECEDING SPECIES; ITS COMMENCEMENT AND  
PROGRESS FREQUENTLY INSIDIOUS; AND OFTEN ATTENDED  
BY LITTLE OR NO EXTERNAL REDNESS.

[INFLAMMATION may be confined to one of the internal structures, or all of them may be involved. The close connexion between the different internal parts, and their common vascular supply, are sufficient to account for the extension of inflammation from one to another. If inflammation commences in the iris, it readily extends to the ciliary body, choroid coat, vitreous humour, and retina. On the other hand, it may spread forward to the anterior part of the eye, so that a case of iritis often involves in its progress the greater part, or the whole, of the internal tunics, and also the external parts. Inflammation, beginning in the retina, spreads in like manner to the vitreous tunic, choroid, iris, &c.\* Mr. Lawrence treats of four varieties of internal ophthalmia; namely, inflammation of the anterior and posterior chambers of the eye; inflammation of the iris; inflammation of the internal tunics generally; and inflammation of the posterior tunics of the eye.

GEN. VIII.  
SPEC. III.  
Ophthalmia  
interna

As this work is not designed to convey a minute account of ophthalmic surgery, the first variety must here be omitted, and our remarks confined to

- |   |   |
|---|---|
| α Iritis.                                 | Inflammation of the iris.                         |
| β Inflammatio tunicarum internarum oculi. | Inflammation of the choroid coat coat and retina. |

As in the arrangement of inflammation of the eye, adopted in this edition, inflammation of the iris is classed as a variety of internal ophthalmia, and not as a species, no particular definition of it is placed as a leading head at the beginning of this section. Yet, as that inserted by Dr. Good is correct and instructive, it may be as well here to repeat it.]

α Iritis.

Inflammation commencing in the iris; colour of the part changed to green or reddish; fibres less moveable, and shooting denti-form processes into the pupil; pupil irregularly contracted and greyish.

Dr. Schmidt of Vienna, to whom we are chiefly indebted for an accurate description of this species, has denominated it *Iritis* †; and under this name it has of late years been described by many practical surgeons in our own country. The termination, however,

The iritis of  
Schmidt:

\* See Lawrence on the Diseases of the Eye, p. 268. 8vo. Lond. 1833.  
† Ueber Nachstaar und Iritis nach Staaroperationen. Wien, 1801.

GEN. VIII.  
SPEC. III.  
Ophthalmia  
interna.  
α Iritis.

but the name  
not classical.

Morbid change  
of colour ac-  
counted for.

Cloudy ap-  
pearance ac-  
counted for.

The character  
of the inflam-  
mation ad-  
hesive.

Quality of the  
matter effused  
in, or from  
the iris.

Other symp-  
toms.

Red zone  
around the  
cornea.

is unclassical, and if the derivative be retained, it should unquestionably be *iriditis*, instead of *iritis*; but ophthalmia *iridis* is bitter, as the disease is very clearly a species of a connexive genus of diseases, rather than a distinct genus itself. It is the more singular, however, that *iritis* should have ever been used by its inventor, as the Germans have long employed the more correct relative compounds of *iridotomia*, *iridectomy*, and *iridodyalysis*.

The exact change of colour, which the inflamed iris assumes, first in its less, and then in its greater circle, depends upon the peculiar colour it possessed when in health. If this were greyish or blue, the morbid hue will be green; if brown or black, it will be reddish. The greyish or cloudy appearance of the pupil, is produced by the secretion of coagulable lymph, which spreads over it in a fine flake like a cobweb. If the inflammation do not yield to the curative treatment, a yellowish-red tubercle forms in some part of the surface of the iris, commonly where the greater and less circles of the membrane meet; it enlarges, projects still forwarder, and is distinctly seen to be an abscess, which at length bursts and discharges its contents into the anterior chamber.

[Iritis is an adhesive inflammation; that is, an inflammation, attended with deposition of new matter, indiscriminately called by the not very precise term of coagulable lymph. The chief character of the affection is this effusion of lymph, either into the texture of the iris, or in distinct masses on its surface, or in a more or less fluid form. This effusion of coagulable lymph, besides changing the colour and general appearance of the iris, impairs and destroys its motions; frequently renders it adherent to surrounding parts; alters the form and size of the pupil; and obstructs that aperture, so as to produce more or less impairment of sight. But, though the inflammation is called adhesive, and the substance effused is commonly lymph, it appears, pus may be poured out from the inflamed iris, or, at all events, a fluid of a yellowish colour, that sinks to the bottom of the anterior chamber, and cannot be distinguished from pus; and where the inflammation is violent, even blood itself may be effused.\*

In the beginning, there is some intolerance of light; the sclerotic coat participates more or less in the inflammation; and there is consequently a greater or less degree of increased sensibility. If the inflammation be not relieved by proper treatment, Mr. Lawrence finds that an opposite state succeeds, or dimness of sight, caused by other changes which now take place in the pupil and cornea. From the commencement, there is generally more or less pain, which varies in degree according to the acuteness of the attack, and often extends around the orbit, and sometimes to the front or back of the head. The pain is often characterised by nocturnal exacerbations.

In the enumeration of the symptoms of *iritis*, however, what most particularly deserves notice is the redness, which appears in the form of a zone around the cornea, and consists of the vessels on the fore part of the sclerotica. In the beginning, a pale pink blush of sclerotic redness is perceptible, and, although the conjunctiva is not altered, the trunks of the vessels of the sclerotica may be observed to be in a state of distention. If the affection

\* See Lawrence, *op. cit.*, p. 285.



continue to increase, the inflammation spreads from the iris to the corpus ciliare, choroid coat and retina, with increase of pain and fever, and ultimately with irrecoverable loss of vision. At the same time, the mischief is propagated forward, the cornea becomes more opaque, the conjunctiva more inflamed, and great external redness is added to all the other symptoms.

After the active inflammation at length abates, the permanent disorganisation and changes of structure remain; as general adhesion of the iris to the cornea, with opacity of the latter, and even staphyloma; or adhesion of the edge of the pupil to the capsule of the lens; a motionless contracted state of the pupil, &c.

A change of colour in the whole iris, with considerable contraction of the pupil, and an opaque substance in it, with intense external redness, great and deep-seated pain, and complete insensibility to light, are circumstances denoting, according to Mr. Lawrence's experience, a hopeless case. When the inflammation is recent, confined to the iris, and unattended with permanent changes of structure in the iris, cornea, or retina, or adhesions, and irregularity of the pupil, the prognosis is favourable.]

This distressing affection sometimes follows an operation for the cataract; in which an irritation is often excited either by endeavouring to press out the lens through too small a wound in the cornea; by suffering some pieces of the lens to remain in the posterior chamber; or from too frequent an exposure of the internal surface to the air by unnecessarily raising the flaps of the cornea. And the disease was hence, in our country, till of late, most absurdly denominated *secondary cataract*. [It also originates from accidental injuries, and irritation, and immoderate exertion of the eye.

Iritis is particularly apt to occur in certain states of the constitution, and, as Mr. Lawrence mentions, it has even been doubted, whether there is any such thing as idiopathic iritis, except as the result of direct mechanical injury. The unhealthy condition of the constitution, promoting attacks of iritis, are those produced by morbid poisons, as in syphilis, or those occurring in individuals who are subject to gouty and rheumatic complaints. Iritis is rare in young subjects, in whom these states of the system do not exist.]

Where a patient is labouring under an arthritic diathesis, and is accidentally affected by a common ophthalmia, this species is apt to be engrafted upon it. It is also an accompaniment of several cutaneous eruptions, especially those connected with an abuse of mercury.

The medical treatment should consist in free venesection, leeches, active purgatives, and low diet: blisters are then to be applied successively to the temples, behind the ears, and on the nape of the neck. [The body is to be kept perfectly at rest, as well as the organ; and the eye protected from all injurious external influences. According to Mr. Lawrence, local applications cannot be of much service in so serious an affection of parts comparatively internal. Tepid washes, he says, will perhaps be most soothing; but cold applications may be used, if the patient prefer them.

The foregoing antiphlogistic measures will moderate the violence of the inflammation; but the effusion of lymph proceeds, and the

GEN. VIII.  
SPEC. III.  
Ophthalmia  
interna.  
a Iritis.

Prognosis.

Causes of  
iritis.

Occasional  
causes.

Medical  
treatment.

GEN. VIII.  
SPEC. III.  
Ophthalmia  
interna.  
α Iritis.

above-mentioned alterations of structure are the result. For the stoppage of this destructive action, the free and prompt use of mercury is necessary, which not only stops the further deposition of lymph, but promotes the absorption of what is already effused. Two, three, or four grains of calomel, joined with one fourth or one half of a grain of opium, should be given every eight, six, or, in urgent cases, every four hours. When calomel disagrees, the blue pill, or mercurial frictions, may be employed.]

Whether iritis be a primary affection, or connected with other diseases, even with syphilis, or induced by the action of mercurial preparations, Mr. Travers estimates mercury as almost a specific remedy. \*

Application  
and use of  
belladonna.

[Belladonna is also to be used for preventing that contraction of the pupil, to which there is such a powerful tendency in iritis. If the inflammation be violent, Mr. Lawrence smears the moistened extract upon the eyebrow; when the organ is less irritable, he drops a solution of the extract between the eyelids. This part of the treatment is of the greatest importance, not only in preventing further contraction of the pupil, but because the influence of belladonna on the iris is so great, that, where adhesions have already taken place, if the effusion be very recent, the contraction of the iris will elongate the masses of effused lymph, stretch them out, and often completely liberate the margin of the pupil. The case, however, must be recent, and the belladonna assisted with the operation of mercury.]

Inflammation  
of the iris, how  
distinguished  
from that of  
the cornea.

Mr. Travers distinguishes also inflammation in the iris from that in the cornea, by regarding the latter as suppurative, and leading to an abscess, and the former as adhesive alone. And he tells us, that inflammation of the cornea so strictly maintains this character, that if it spread to the iris, and in this case become merely secondary, it still preserves its adhesive power.

Sometimes a  
concomitant or  
sequel of other  
affections.

This species is also sometimes a concomitant of cutaneous eruptions, decidedly not syphilitic; and especially of those produced by a very extensive use of mercury; constituting what has been denominated by some writers *erythema mercuriale*, and hydrargyria, as we shall take occasion to notice under syphilis.

In the syphilitic or arthritic affection, however, a particular attention must be paid to the primary disease, since otherwise no local remedies can be of any avail.

β Retinitis and  
choroiditis.

*Inflammation of the internal coats of the eye* is a disease that has generally been overlooked by writers, and scarcely discriminated by practitioners. We have seen, that inflammation, commencing in the iris, may extend to the internal coats of the organ, and even to the whole of the eyeball; but sometimes those coats become primarily inflamed.

Symptoms,  
first stage.

The leading symptoms of the first stage are, a dull deep-seated pain in the organ, aggravated by light, or exertion of the eye; impaired vision; with originally, and often throughout, but little external redness. The pain soon extends to the brow, occiput, and other parts of the head. The pupil may be either rather contracted, with a quick motion of the iris; or somewhat dilated, with sluggish motion of the latter part. The former, according to Mr. Lawrence,

\* Surgical Essays, &c. i. passim.

is the earlier state, denoting excitement of the retina; the latter, a later condition indicating more advanced changes, attended with loss of sensibility in the nervous structure. The disorder is accompanied with febrile symptoms. As the disease proceeds, more sclerotic redness shows itself round the cornea; the iris changes colour and expands; and the sight becomes weaker and weaker, and is soon lost, after which misfortune, the patient is troubled with various false luminous appearances.

In the second stage, the iris closes, and projects, in a convex form, towards the cornea; and hypopium is produced by the effusion of matter in the anterior chamber. Complete amaurosis, supuration, and collapse of the eyeball, and closure of the pupil, are the result of bad cases.

Greatly impaired vision, produced quickly, with pupil still clear, and not much contracted. Mr. Lawrence says, may be restored; but if sight should have been totally lost before the pupil has closed, or, if that opening be much contracted, and vision gone, there is no hope.

The treatment should be antiphlogistic, and followed up by the prompt and free use of mercury, combined with the local employment of belladonna. Bleeding and other antiphlogistic means may check the inflammation; but, unassisted by mercury, they are not adequate to prevent those changes in the retina, which lead to blindness.\*

GEN. VIII.  
SPEC. III.  
Ophthalmia  
interna.

β Retinitis and  
choroiditis.  
Second stage.

Prognosis.

Treatment.

#### SPECIES IV.

### OPHTHALMIA STAPHYLOMA.

#### PROTUBERANT EYE.

PROTUBERANCE AND PARTIAL OR COMPLETE OPACITY OF THE CORNEA; OR AN UNSNATURAL PROTUBERANT STATE OF SOME PART OR PARTS OF THE SCLEROTIC COAT; SIGHT ABOLISHED OR IMPAIRED.

THE term STAPHYLOMA is derived from σταφυλή, "uva," a grape, from the resemblance of the tumour of the cornea to the pulpy and semitransparent appearance of this fruit. [The expression, *protuberant* eye, adopted by the author, is not precisely applicable, because the eye may be rendered protuberant by various other diseases.

GEN. VIII.  
SPEC. IV.  
Origin of the  
specific term.

The definition introduces us to the division into two species:—

α Staphyloma corneæ.

Staphyloma of the cornea.

β Staphyloma tunicæ scleroticæ.

Staphyloma of the sclerotic  
coat of the eye.

The term *staphyloma corneæ* is applied to a projecting and opaque state of this part of the eye. The whole of the cornea may

α Staphyloma  
corneæ.

\* See a Treatise on the Diseases of the Eye, by Wm. Lawrence. Lond. 8vo. 1833.



GEN. VIII.  
SPEC. IV.  
Ophthalmia  
staphyloma.  
Described.

be involved in the unnatural protuberance ; or only a portion of it may be concerned. Hence, the varieties of *staphyloma totale*; and *staphyloma partiale*. In the first case, sight is in general completely lost ; the cornea opaque ; and the axis of the eye greatly lengthened ; but, in the partial staphyloma, if it does not cover a large portion of the pupil, a considerable degree of vision may remain. When the disease embraces the whole pupil, or is accompanied with general opacity, sight is altogether destroyed. The protuberance of the eye interferes with the closure of the eyelids, by the friction of which against the forepart of the eyeball, and by the exposure of the organ to the atmospheric irritation, frequent attacks of pain and ophthalmia are excited, and even the other eye becomes weak and irritable.

Causes.

Staphyloma of the cornea is mostly preceded by severe inflammation of the eye, particularly such as produces sloughing ulceration, and a consequently weakened state of the texture of the cornea, disposing it to yield to the distention of the contents of the eyeball. The case is likewise attended with an increased accumulation of the aqueous humour ; to which circumstance, indeed, some writers mainly refer the origin of the disease. The irritation has often a sympathetic influence on the other eye, rendering it weak, irritable, and even inflamed.

Treatment.

The treatment is either palliative, or radical. The palliative consists in the removal of the inflammation by antiphlogistic treatment, or by diminishing the volume of the swelling by puncturing the cornea with a cataract needle, and letting out the aqueous humour. The repetition of this plan has even sometimes led to a radical cure, the protuberance permanently subsiding, and the eye becoming quiet. But, if the patient continue to suffer severely from frequent returns of inflammation, and especially if the other eye should be affected by sympathy, the radical treatment becomes indispensable. It consists in cutting away the staphylomatous protuberance with a common cataract-knife.

β Staphyloma  
tunicæ  
scleroticæ.  
Described.

When the inner coats of the eye are the seat of considerable inflammation, it sometimes happens, that the disorder so weakens and thins certain points of the sclerotic coat, that they afterwards yield to the distention of the contents of the eyeball, and bulge or project in a greater or lesser degree, and the protuberance is either single, or more or less multiplied. The disease is particularly apt to occur in that part of the sclerotic coat, which is near the ciliary body. The case is invariably accompanied with total loss of sight.

Part of the  
sclerotica most  
liable to the  
disease.

SPECIES V.  
OPHTHALMIA ECTROPIUM.  
*EVERTED EYELID.*

EYE WEAK AND WEEPING, WITH SLIGHT BUT CHRONIC INFLAMMATION; TARSUS THICKENED, AND RETRACTED, WITH A PERMANENT REDNESS ON ITS VERGE.

THIS species is usually a relic, or sequel of some form of ophthalmia, in consequence of ill treatment or neglect.\* The eversion may be either temporary, or permanent. The former is common in the purulent ophthalmia of children, and other inflammations, in which the conjunctiva is much swelled. The eyelid in these cases may be easily restored to its proper position again, by the manual assistance of the surgeon, and, indeed the part generally rectifies itself, as soon as the child ceases to cry.] Ectropium may be contemplated under two varieties: or, according to Scarpa, two species: —

*α* Lippitudo.  
Blair-eye.

The ciliary edge red, thickened, and highly irritable, the retraction simple; conjunctiva unexposed.

Ophthalmia  
ectropium.

*β* Nudum.  
Naked ectropium.

The upper or lower tarsus completely everted, the conjunctiva exposed, and turgid, with red vessels.

The blood-vessels, visible in that part of the conjunctiva which covers the inside of the eyelids, are far more numerous than those observable in that part of it which covers the globe of the eye. And hence, in various species of ophthalmia, the interior of the eyelid is peculiarly apt to become turgid, and very highly inflamed; and, from turgescence, thickens at its edges, and is often so considerably everted as to expose a very large portion of the conjunctiva. And if these effects of inflammation be not duly attended to, both the thickening and eversion are apt to remain and become permanent; nor is this all, for the exquisitely tender membrane of the eyelid, constantly exposed to irritation from cold, sharp winds, dust, a strong light, and excoriating tears, increases in tenderness, is never free from some degree of inflammation, and at length becomes highly vascular, florid, fleshy, and carunculate (*ectropium sarcomatosum*), and exhibits a very hideous deformity; the everted eyelid sometimes becoming adherent to the cheek. [The frequent occurrence of ectropium in the lower eyelid as the result of lippitudo, is particularly noticed by Mr. Lawrence, who observes, that, when the mucous membrane of the eyelid has been long inflamed and thickened, and when the irritating discharge has excoriated

General  
remarks.

Origin of  
lippitudo.

\* Vetch, on Diseases of the Eye. 8vo. 1820. It may likewise accompany chemosis and the most stages of ophthalmia: our author's definition, therefore, is not unobjectionable. — Ed.

## GEN. VIII.

## SPEC. V.

Ophthalmia  
ectropium.α O. Lippi-  
tudo.

Treatment.

Scarification.

Stimulants and  
astringents.

the skin, the latter shrinks under the repetition of such attacks, becomes shortened, and draws the margin of the eyelid outwards.]

In the commencement of the BLEAR-EYE or vascular turgesence, the vessels should be scarified with a lancet; and it will be sometimes expedient to repeat the plan several times; for the operation itself produces a new and more healthy action, and gives a disposition to contractility. The edge and interior of the thickened tarsus should then be attacked with gentle stimulants and astringents; as a solution of alum, zinc, lead, or camphor; or applications of the best brandy, vinum opii, or the nitric oxyde of mercury, in the form of the College ointment. [The treatment, recommended by Mr. Lawrence, consists in freely applying the red precipitate ointment to the thickened and everted conjunctival surface, as well as to the ciliary margin of the eyelid. It reduces the swelling of the conjunctiva, and rectifies the secretion of the tarsal glands. In this way, he says, ectropium may often be removed, even when accompanied with much thickening of the conjunctiva. If the latter affection do not yield readily, the part may be lightly touched with nitrate of silver. The shrinking, thus produced on the internal surface of the conjunctiva, draws the edge of the eyelid into its natural situation. When the case is more obstinate, and resists the foregoing plans, the excision of the surface of the thickened membrane is to be performed, after which, in proportion as the wound heals, the eyelid is drawn into its right position again.]

β O. Ectro-  
pium nudum.Treatment  
when with a  
horny cicatrix.

THE SECOND VARIETY, OR EVERTED EYELID, when of long standing, is accompanied with a hard or horny cicatrix; [and frequently with such a change in the figure of the tarsus, in consequence of its having been long in a stretched state, that, even if the eyelid were replaced, it would not properly adapt itself to the convexity of the globe.] In such cases, the only cure seems to be that recommended by Sir William Adams, of cutting out with a pair of scissors a strip of the tarsus in the form of the letter V; afterwards separating the eyelid from the cheek whenever it adheres to it; and, finally, supporting the lid, now raised into its proper place, and confining the edges of the cut eyelid, brought into a state of juxtaposition, by a proper bandage.\* The divided edges heal by the first intention; and the cure is often completed in a fortnight, with a restoration of the eyelid to its healthy form.

When simple.

Sir W. Adams recommended the same process for the simpler and earlier stages of everted eyelid, or where there is no hard or horny cicatrix, but a morbid turgesence of the internal membrane of the eyelid, often accompanied with granulations; yet, as Mr. Guthrie has given ample evidence, after Beer†, in both these cases, a skilful application of a very small portion of sulphuric acid to the internal conjunctiva, upon the end of a probe, will of itself suffice to effect a cure, will destroy the minute caruncles, and produce almost any degree of contraction throughout the extent of the eyelid, even to that of an inversion of the ciliary edge, if carried too far‡, the operation just noticed should, perhaps, always be reserved for the examples above specified.

Sulphuric acid.

\* Practical Obs. on Ectropium, &c. chap. 1.

† Lehre von den Augenkrankheiten, band II. p. 144. Wien, 1817.

‡ Operative Surgery of the Eye, &c. p. 56. 8vo. Lond. 1823.



SPECIES VI.  
OPHTHALMIA ENTROPIUM.  
*INVERTED EYELID.*

TARSUS DRAWN INWARDS. CILIARY HAIRS BENT AGAINST THE CONJUNCTIVA; AND PERMANENTLY IRRITATING AND INFLAMING THE EYE.

THIS disease is sometimes known by the name of trichiasis. The evil it produces is the reverse of that just described, and consists in an internal traction of the tarsus above or below, in consequence of which a perpetual irritation is produced in the conjunctiva, by the friction of the hairs of the eyelid, thus thrown out of their natural line of growth. The inflammation is in time communicated to the cornea, which becomes opaque, and is frequently ulcerated. When the disease has acquired a chronic state, the integuments appear redder than usual, the eyelid is thickened, the conjunctiva is contracted at its commissures, and the tarsus assumes an unnatural curvature.

[Entropium may be either temporary or permanent; partial or complete. According to Mr. Lawrence's interesting description, temporary inversion, particularly that of the lower eyelid, is apt to occur in chronic external ophthalmia, and sometimes even in acute cases. Permanent ectropium may happen from two causes: there is frequently, in elderly persons, a relaxation of the integuments; the skin of the eyelid loses its elasticity; falls into wrinkles; the fat is absorbed from the surrounding parts; and thus loose folds are formed in it. The balance between the external surface, and the mucous lining of the eyelid is lost, and inversion is the consequence. In another form of the disease, the cause is seated in the tarsus and mucous lining of the eyelid; these parts being corrugated and shortened in consequence of repeated chronic ophthalmies. The temporary

GEN. VIII.  
SPEC. VI.  
Description.

Treatment.

Various plans have been devised for the cure of the permanent form of the defect from the time of Celsus, or rather of Hippocrates. Of these the chief have consisted in a careful attention to remove, and, if possible, prevent the future growth of hairs, either by pulling them out, or destroying their roots with sulphuric acid; a removal of a fold of the skin, and producing an artificial retraction by drawing the extremities of the wound together by sutures or strips of adhesive plaster, as recommended by Scarpa; the plan of destroying a similar portion of skin with caustic, or concentrated sulphuric acid; and, lastly, an entire removal of the edge of the eyelid, including the cilia, as proposed by Jaeger, and since performed with little variation by Mr. Saunders.

Various plans  
of cure.

GEN. VIII.  
SPEC. VI.  
Ophthalmia  
entropium.

Crampton's and  
Guthrie's  
methods.

Of these methods, the first, which is the simplest, rarely, if ever, as Beer has justly observed, produces a permanent cure; [the second and third answer very well in ordinary cases; but the fourth is peculiarly unsightly in the issue.

When the tarsus is permanently shortened and corrugated, common methods sometimes fail, in which event either Mr. Crampton's plan may be followed, or the modification of it adopted by Mr. Guthrie.] Its principle consists in taking off all contraction, by slitting up the eyelid at each angle, and then producing a sufficient degree of permanent retraction, by taking away a small slip of the affected tarsus as near the edge as may be, and afterwards uniting the margins of the wound, as already noticed, by small sutures, the threads of which are to be fastened with sticking plaster to the cymbrow, so as to keep the edge of the eyelid duly everted, till the sutures are removed.\*

## GENUS IX.

### CATARRHUS.

#### CATARRH.

INFLAMMATION OF THE MUCOUS MEMBRANE OF THE FAUCES, OFTEN EXTENDING TO THE BRONCHIA, AND FRONTAL SINUSES; INFARCTION OF THE NOSTRILS; SNEEZING: AND, FOR THE MOST PART, A MUCOUS EXPECTORATION, OR DISCHARGE FROM THE NOSE.

GEN. IX.  
Origin of the  
generic term.

Different senses  
applied to it.

CATARRH is a Greek compound, and imports "defluxion;" from *κατὰ*, denoting, as stated in the table of significations to the affixes and suffixes of medical terms in the Nosology, "augmented action," and *ῥέω* "to flow." Catarrhus, however, like ophthalmia, has been used in various senses and latitudes by different authors. The old pathologists distinguished between three separate terms, which are now regarded by many writers as synonymous:

Si fluit ad pectus, dicatur rheuma CATARRHUS;  
Ad fauces, BRONCHUS; ad nares, esto CORYZA.

This couplet is, perhaps, founded upon Galen's account of these affections.

Distinctions of  
Sauvages.

Sauvages has only deviated from the rule, contained in the above Latin couplet, by omitting bronchus and employing catarrhus in its stead, and rheuma in the stead of catarrhus; so that with him RHEUMA imports a cold, or febrile defluxion of the chest; CATARRHUS imports a cold, or febrile defluxion of the throat.

\* Operative Surgery of the Eye, &c., p. 33. 8vo. Lond. 1823. Quadri, Annotazione pratiche sulle Malattie degli Occhi. Napoli, 1819. Travers, Synopsis of the Diseases of the Eye, 1810. Beer, Lehre, &c. ut suprà.

RHUS, the same affection of the fauces, and adjoining organs ; and CORYZA, the same malady of the head or nostrils.

Cullen has regarded rheuma, coryza, bronchus, and catarrhus as synonymous terms, scarcely indicating varieties of the same disease. The arrangement of Dr. Cullen, moreover, did not allow him to place *bex*, *tussis* or cough, any where else ; and, being obliged to yield to the force of necessity, he has made cough also a synonym of catarrh, and has treated of it under this genus. It is here the present system differs from Dr. Cullen, as it does likewise in separating coryza from the list of phlogotic affections. Cough is not necessarily a pyretic or inflammatory disease, though it may be occasionally a symptom of such disease. Cough, therefore, under the Greek term *BEX*, we have already considered, as well as CORYZA, under the second or PNEUMATIC class ; where they will probably be allowed by most nosologists to occupy more correct and natural posts, than in the present place. Catarrh, thus explained, embraces the two following species : —

1. COMMUNIS.
2. EPIDEMICUS.

COLD IN THE HEAD OR CHEST.  
INFLUENZA.

Under neither of these species can catarrh be regarded as a dangerous or very serious disorder, unless neglected or treated improperly ; or it occur with great severity in persons of delicate lungs, or possessing a consumptive diathesis ; in all which cases, its result may be very mischievous, and lead on either to pneumonia, bronchlemitis, phthisis, or dropsy of the chest, though in itself, and separate from such concomitants, by no means alarming.

## SPECIES I.

### CATARRHUS COMMUNIS.

#### COLD IN THE HEAD OR CHEST.

FEVER SLIGHT ; MUCOUS DISCHARGE CONSIDERABLE.

This is the *pose* of old English writers, a term precisely synonymous with the *gravado* of Celsus, which is also employed in the earlier medical works of our own country. To *pose* is still used in the sense of to stupify, and the real meaning of *posie* is a “narcotic charm,” and hence a nosegay of tranquillising odour inducing repose or sleep. The common symptoms of this species are a sense of fulness in the head, and of weight over the eyes, which are inflamed and lachrymose. The nostrils are obstructed, and pour forth a thick acrimonious ichor, which excoriates the skin as it descends, accompanied with frequent sneezing. The voice is hoarse, the fauces sore, and the lungs loaded, often producing a troublesome cough.

Its usual cause is suppressed perspiration from cold ; whence Dr. Cullen conceives, that cold is the constant and only cause, and would in every case be detected to be such, were men acquainted

GEN. IX.  
Catarrhus.  
Arrangement  
of Cullen.

Signification  
in the present  
system.

GEN. IX.  
SPEC. I.  
Synonyms.

Description.

Causes.



GEN. IX.  
SPEC. I.  
Catarrhus  
communis.

with, and attentive to, the circumstances which determine cold to act upon the body.

From the similarity between the fluid exhaled from the skin and that from the lungs, he conceives that, whenever the former secretion is obstructed in its flow, it is transferred to, and passes off with the latter; the cough being produced by the stimulus of the increased action, and exhalation.

Something  
more than cold  
as a cause at  
times.

There seems, however, to be, in many cases at least, something more than this; for neither cold nor suppressed perspiration will account for every instance of common catarrh. There are few practitioners, perhaps, but have sometimes known persons thus affected who have been bedridden from chronic lameness or some other cause, and have had their chamber warmed night and day by a fire. Some ladies always catch a cold in the head on quitting the town for the country; and others on quitting the country for the town. Something must therefore depend on the actual state of the constitution at the moment; and something upon the variable quality of the atmosphere: and a change in both frequently perhaps concurs in producing the affection of a common catarrh.

Curative  
process.

Where the attack is slight, medical aid is not often sought for or needed. A few days of domestic repose in a warm but not a close atmosphere, diluent drinks, with an abstinence from animal food, and vinous or other fermented liquors. a sudorific posset at night, with an additional blanket thrown over the bed to encourage perspiration, usually succeed in carrying off the complaint. But if there be a sense of oppression on the chest, or of fulness in the head, with the ordinary signs of fever, constituting what is often called pulmonary catarrh, the bronchitis of Dr. Badham, venesection should be had recourse to, and a smart purgative immediately afterwards, while the preceding process is still continued. If the cough should be troublesome at night, it will be best allayed by a dose of Dover's powder, which will take off the irritation, and determine to the surface.\*

Catarrh is also found occasionally, as a symptom, in measles, small-pox, worms, dentition, and rheumatism.

\* Dr. Corrigan believes that there are two species of catarrh; one not extending its effects to the bronchia, and curable by camphor mixture and opium in twenty-four hours; the other affecting the bronchial tubes, and demanding the same treatment as bronchitis. See Dublin Journ. of Med. and Chemical Science, No. i. — ED.

SPECIES II.  
CATARRHUS EPIDEMICUS.  
*INFLUENZA.*

THE ATTACK SUDDEN; GREAT HEAVINESS OVER THE EYES;  
FEVER STRIKINGLY DEPRESSIVE; EPIDEMIC.

This species differs chiefly from the preceding in the abruptness of its incursion, the severity of its symptoms, and very generally in the rapidity of its transition. It probably also differs in the nature of its remote cause.

It commences, according to Dr. J. C. Smith, who has accurately given us its progress as it appeared in 1781 and 1782, with the usual catarrhal symptoms, in conjunction with others that are far more distressing to the patient, and often not less alarming to the physician; such as great languor, lowness and oppression at the precordia, anxiety, with frequent sighing, sickness, and violent headach. The pulse is peculiarly quick and irregular, and at night there is often delirium. The heat of the body is seldom considerable, particularly when compared with the violence of the other symptoms; the skin is moist, with a tendency to profuse sweating; the tongue moist, but white or yellowish. Sometimes there are severe muscular pains general or local; at other times, erysipelatous patches or efflorescences on different parts of the body, which, in a few rare instances, have terminated in gangrene and death. From the onset, for the first twenty-four or forty-eight hours, the symptoms are extremely violent, far beyond the danger or duration of the distemper. For the most part, it attacks the healthy and robust; children and old people either escape entirely, or are affected in a slighter manner.\* Pregnant women, however, are disposed to miscarry, and the flooding is in some cases fatal. Patients, also, subject to pulmonic complaints, suffer much from the cough, difficulty of breathing, and other peripneumonic symptoms, which occasionally lead on to dissolution.†

Such is the general progress of influenza in most of the periods in which it has shown itself. But, in every period, its symptoms have considerably varied in severity in different individuals. In many instances, they have scarcely exceeded the signs of a common cold; in others, the pleuritic pain has been very acute, or the headach intolerable, shooting up to the vertex with a sense of splitting; the pulse has been a hundred and forty, and often considerably more, in a minute, with incoherency or delirium from the first night. Yet cases of real danger are very few; and the violence of the disease is over frequently in forty-eight hours; sometimes

GEN. IX.

SPEC. II.

How distinguished from the preceding species.

Description.

Symptoms vary in severity in different cases

\* In the influenza of particular years, the mortality has been chiefly in children and aged individuals. The last visitation of this disorder in London proved fatal to a great number of old persons. — *Ed.*

† Medical Communications, vol. i. p. 71.

GEN. IX.  
SPEC. II.  
Catarrhus  
epidemicus.  
Sometimes suc-  
ceeded by great  
chronic  
debility.

Disease de-  
scribed by the  
Greek writers.

How regarded  
by Sydenham.

Unquestion-  
ably an  
epidemy:

often return-  
ing:

though the  
causes and  
nature of  
epidemics but  
little known.

in twenty-four. Those, who have suffered, appear to be insusceptible of a second attack during the continuance of the epidemy, though they have no indemnity against the next that may appear. In many cases, however, the general debility, induced on the system, does not terminate with the catarrh itself, but remains for weeks, perhaps for months, afterwards, and is sometimes removed with great difficulty.

The disease has been known and described from the time of Hippocrates \* to the present day: and is dwelt upon at great length by Sydenham, who regarded it in the autumn of 1675 as a general cough produced by cold and moist weather, grafted upon the autumnal epidemy, and varying its symptoms; whence the fever, which had hitherto chiefly attacked the head or the bowels, now transferred its violence to the thorax, and excited symptoms which had often a semblance to those of genuine pleuritis, but in reality were not so, and demanded a different and less evacuant treatment; the patient being uniformly made worse by copious and repeated bleedings; though a single moderate venesection was often useful, and in a few instances a second: beyond which Sydenham always found it mischievous to proceed. And in proof that this was the real nature of the case, he observes, that "these catarrhs and coughs continued to the end of November, after which they abated, but the fever still remained the same as it was before the catarrhs appeared;" meaning that it then returned to its essential character: "although," he continues, "it was neither quite so epidemic, nor accompanied with quite the same symptoms; *since these incidentally* depended upon the catarrhs."

Influenza, however, as we shall have occasion to show presently, has not only occurred in the autumn, but in every season of the year, whether hot, cold, damp, or temperate; and when there has been apparently no other constitutional distemper with which it could unite itself. The chief returns of the disease, which have been remarked in this country since the above of Sydenham, are those of 1732, 1762, 1775, 1782, 1803, and 1831: the duration of the epidemy was in every instance from a month to six weeks. That the disease is an epidemy, cannot be doubted for a moment: yet this is to advance but a very little way towards a knowledge of its origin or remote cause; for we have still to enquire into the nature of epidemics, their sources, diversities, and means of diffusion; often, as in the case of spasmodic cholera, in the very teeth of periodical winds and other meteorological phenomena that we might fairly conclude, if we did not know the contrary, would irresistibly oppose their progress, or disintegrate their principles,

\* This statement is at variance with other accounts of the subject: thus, in the Cyclop. of Pract. Med., it is alleged, that we find no medical description of the epidemic catarrhal fever before the year 1510. "It was called *cocoluche*, because the sick wore a cap close over their heads." Schenck observes, that physicians then looked upon it as a new disease. Its course seems to have been in a N.W. direction from Malta to Sicily, Spain, Italy, Germany, France, and Britain; and Short says, that "it attacked *at once*, and raged over all Europe, not missing a family, and scarce a person, and that none died except some children. In some it went off with a looseness; in others, by sweating." (See Short's Chronol. Hist. of the Weather, &c. vol. i. p. 204; and Dict. des Sciences Méd., art. GRIFFE.) Tozzetti's Cronica Meteorologica Toscana, a work referred to by Cullen, in relation to influenza, was published, however, in 1323.—Ed.



and consequently abolish their power.\* Dr. Sydenham, with the modesty which peculiarly belongs to himself, and always characterises real knowledge, freely confesses his ignorance upon the subject, though he is rather disposed to ascribe them to "some occult and inexplicable changes wrought in the bowels of the earth itself, by which the atmosphere becomes contaminated with certain effluvia, which predispose the bodies of men to some form or other of disease;" while Hippocrates, who had pursued the same recondite subject with an equally indefatigable spirit upwards of two thousand years before, resolves them, with a devotional feeling which would do honour to the philosophy of the present day, but which the philosophy of the present day has not always evinced, into a present divinity, a providential interposition; for such, as Galen informs us, is the actual meaning of his *TO ΘΕΙΟΝ* †, and not some unknown and latent physical principle of the atmosphere, as various expositors have conceived:—"non enim quæcunque causas habent incognitas et abditas *DIVINA* vocamus; sed ubi admirabilia videntur duntaxat." ‡

An epidemic, however, or state of the atmosphere capable of producing any general disorder, whether originating specially or in the ordinary course of nature, may depend upon an intemperament, or inharmonious combination of the elementary principles of which it consists, or upon some foreign principle accidentally combined with it, and which has of late years more especially been called a miasm or contamination. It is possible, that both those may be causes of different diseases; and, in this case, the term epidemic might be more correctly limited to those which issue from the first cause than from the second: and Dr. Hosack has endeavoured thus to limit it. But as it is rarely that we can distinguish between the two, and especially as the term has been very generally applied to diseases arising from both sources, it is not worth while to alter its common signification.

In the disease before us, many writers have endeavoured to trace it to the first of the above causes, and particularly to the atmosphere's being in a state of negative electricity; and Weber, fully confiding in this cause, has recommended, somewhat whimsically, the use of socks made of the most powerful non-conductors, as oiled-silk, or paper covered with sealing-wax, as a certain prophylactic. § Others, without undertaking to determine in what the atmospheric intemperament consists, have regarded it as a mere exciting cause of catarrhs, or, in other words, as merely rendering the body more susceptible of the ordinary causes of this disease, and hence converting a sporadic into a general distemper.

More commonly, however, catarrh as well as other epidemics has in modern times been contemplated as dependent upon the second of the ærial causes just adverted to, namely, the existence of a specific miasm, or morbid principle, of a peculiar kind, in the atmosphere, distinct from any change in the combination of its

GEN. IX.  
SPEC. II.  
Catarrhus  
epidemicus.

Still further  
examined as to  
probable  
causes.

Influenza how  
accounted for.  
Sometimes  
traced to the  
first of the  
above causes.

More generally  
to the second.

\* Like cholera, the influenza has also generally extended itself from the east towards the west, and from the south towards the north; which is a curious coincidence. — *Id.*

† *De Prognos.*, lib. i.

‡ Comment. in Progn. Hipp.

§ *Ratln*, Briefwechsel mit seinen ehemaligen Schülern, band ii. Zürich, 8vo, 1787.

GEN. IX.  
SPEC. II.  
Catarrhus  
epidemicus.

Identity of  
contagions  
and miasms.

proper elements \* : and hence, Professor Frank, after adverting to the "in ambiente nos aëre mutatio," adds, "non sine magnâ latentis contagii suspicione."† There is much, indeed, to support this opinion; for in many cases, as in intermittent and remittent fevers, we can manifestly trace such an origin; and, as we have already shown that contagions and miasms are often identic or nearly so, the former may be brought forward as abundantly confirming the same view.

This identity, or approach to identity, between contagions and miasms, is closely connected with the present subject, and must be a little examined into for its clearer elucidation.

In treating of the origin and laws of febrile miasm, we observed, that it is of two distinct modifications, or proceeds from two distinct sources; that, in its ordinary course, it first appears as the result of a decomposition of dead organised matter, operated upon by the common auxiliaries of putrefaction; but that afterwards, "during the action of the fever thus produced, the effluvium from the living body is loaded with miasm of the same kind, completely elaborated as it passes off, and standing in no need of the decomposition of the effluvium for its formation; under which form, it is commonly known by the name of contagion."

I may now add, that, as primary febrile miasm is not the only miasm generated in the atmosphere, so it does not seem to be the only miasm that gives rise to contagion: that both are very numerous in their kinds, and that specific contagions are, though perhaps not always, yet far most generally, a result of specific miasm produced as above. This seems especially to be the case in respect to influenza; for though most individuals labouring under it are evidently affected from an atmospheric taint, many, as we shall show presently, appear, as in the case of remittent or typhous fever, to receive it from personal contagion: nor is there, in fact, any reason why a puriform discharge from the mucous membrane of the nostrils may not be contagious, as well as a puriform discharge from the mucous membrane of the eyelids in ophthalmia, or from the urethra in blennorrhœa, or, as we shall shortly have to notice, from the rectum in dysentery. Among dogs and horses we perceive the same disease, in many instances highly and extensively contagious, and accompanied with so violent a degree of fever as to be peculiarly dangerous, especially to the young of these kinds. In South America, in particular, this affection is so violent, that half the dogs pupped there are supposed to die of it while sucklings. Whence in common language it is called emphatically *the distemper*, though vulgarly, the *snuffles*, or rather *snuffles*, from the state of the nostrils. In nosology, it is commonly called *catarrhus caninus*.

Doctrine  
applied to  
influenza.

Hence influenza produced by contagion and miasm.

Illustrated  
from diseases  
in other  
animals.

Distemper  
among dogs,  
what.

Specific diseases  
of one kind of  
animals rarely  
attack others.

Generally speaking, specific miasms and contagions, capable of affecting one kind of animals, are incapable of affecting any other kind; or at least rarely extend their influence any farther. In a few febrile pestilences, quadrupeds and birds seem to have been fellow-sufferers with mankind, as we have already had occasion to notice under EPANETUS MALIGNUS, or malignant remittent fever. But this is not common; and, in some instances, is well known to

\* See especially De Mertens, *Observ. Med.*, tom. ii. p. 4.; and Simmons, *Lond. Med. Journ.*, 1788, part iv.

† De Cur. Hom. Morb. Epit., v. pp. 118, 119.

have depended upon the general dearth of a country, or the insalubrity of the preceding harvest. A few of the exanthems, as cow-pox, are capable of propagation from one species to another; but the greater number of them are not, or only with great difficulty. When a putrid fever has broken out among a ship's crew, the live stock has never been known to suffer from it: and it has happened occasionally, when large numbers of sheep and hogs have been stowed in a ship for the purpose of exportation, sometimes the former have been attacked with infectious fever, and sometimes the latter; but the sheep have never communicated it to the hogs, nor the hogs to the sheep, nor either of them to the ship's crew. "It seems to be a general law of nature," observes Sir Gilbert Blane, "at least among the mammalia, that accumulation and stagnation of the exhalations of the living body produce disease. The glanders of horses arise only in large stables, and the distemper of dogs in kennels. During the American war, it was proposed to send live sheep from England across the Atlantic. In a few weeks, in consequence of being crowded in a ship, they all died of a febrile disorder."—"In the expedition to Quiberon in 1795, several horse-transports had their hatches shut for a length of time in a storm, by which means eight horses were suffocated. Those, which survived, became affected with the glanders soon after they landed. Professor Colman saw twenty of them under this disorder: a considerable number had been previously destroyed."\* It does not appear, that, in either of these instances, the respective disorders were communicated from one genus or species of animals to another.

That the catarrh before us possesses not only an epidemic character, but is dependent on atmospheric influence, is established by so many well-known proofs, that it is hardly worth while to give examples. Of a dozen persons in perfect health in the same room, ten have often been attacked as nearly as possible at the same time. In the influenza of 1782, three families, consisting of seventeen persons, arrived on the same day at an hotel in the Adelphi, all in perfect health. The next day they were all affected with the symptoms of the reigning disease.† In an hospital containing a hundred and seventy persons, more than a hundred were, on one occasion, attacked within twenty-four hours; and few of the remainder escaped afterwards.

We have said, however, that the middle-aged, the strong, and the robust, are affected soonest, and suffer most severely, while the young and the old are less susceptible of its influence. In proof of this, we may advert to the fact, that healthy and well-disciplined soldiers suffer peculiarly. In 1782, this was especially the case at Aberdeen: at Dublin, there were, at the same period, seven hundred soldiers confined under it in their barracks at once, and incapable of doing their duty‡; while, at Utrecht, the number

GEN. IX.  
SPEC. II.  
Catarrhus  
epidemicus.

Illustrated.

Glanders of horses from concentrated effluvium of their own kind only.

Sheep affected from like cause and with like limitation.

\* Med.-Chirurg. Trans., vol. iv, pp. 89, 475. The researches of Dr. Elliotson prove, however, that glanders may be communicated to the human subject. (See Med.-Chir. Trans., vols. xvi. and xviii.) This disease, and three others, namely, cow-pox, malignant pustule, and hydrophobia, are, perhaps, the only ones capable of propagation from one species of animals to another. The itch and mange are likewise occasionally mentioned as thus communicable. — Eu.

† Med. Trans., vol. iii. p. 59.

‡ Dr. Hamilton, Mem. Med. Soc. of Lond. 1782.



## GEN. IX.

## SPEC. II.

Catarrhus  
epidemicus.Proofs of com-  
munication by  
contagion.General  
phenomena  
unvaried from  
an early  
period.Extensive  
range of the  
epidemy.Little in-  
fluenced by  
meteorological  
changes.

amounted to not less than three thousand. On the contrary, out of seven hundred boys in Christ's Hospital, during the same epidemic, only fourteen had the disease, and all of them in the slightest manner.\*

The proofs of communication by personal contagion are not less decisive. "The first," says Dr. Hamilton, describing the influenza of 1782, "who were seized with it at Norwich were two men lately arrived from London, where it then continued to rage. A sergeant of grenadiers in the 10th regiment of foot went to London on furlough: the disease then raged in the capital. He returned, in a few days, to St. Albans, affected, and communicated it to the people in whose house he had his billet. This was the first of its appearance there, and from thence it spread rapidly all over the town."†

Dr. Cullen in his Synopsis has followed the more striking returns of influenza from the fourteenth century down to the present times; or rather from the *Cronica Meteorologica Toscana* of 1323, by *Targioni Tozzetti*, to *Saillant's Tableau des Epidémies Catarrhales*. "In all these instances," says he, "the phenomena have been much the same: and the disease has always been particularly remarkable in this, that it has been the most widely and generally spreading epidemic known. It has seldom appeared in any one country of Europe, without appearing successively in every other part of it." And, in some instances, the infection has passed the Atlantic with little or no remission of its severity, and attacked Americans who had not had the slightest intercourse with Europeans.

And hence we are capable of tracing it at sea as well as on land. In the epidemic of 1782, Lord Howe sailed in the month of May with a fleet for the Dutch coast; and Admiral Kempenfelt for that of France. The crews of both fleets were well on sailing: but, in the same month, both were attacked very generally, and the latter was obliged to return home. The previous state of the air, with respect to any of the sensible qualities of heat, cold, electricity, or damp, seems to have exercised but little power. Influenzas, as already observed, have recurred at every different season, in every state of the barometer, thermometer, and hygrometer.

Thus the influenza of 1762, one of the severest on record, producing effects which continued, in many instances, for two or three years afterwards, was preceded by weather uncommonly warm; while, in that of 1767, being the next in rotation, which was also very severe, though productive of less durable mischief to the constitution, the weather was remarkable for being unusually cold.‡ We know nothing of the country from which the disease has at any time taken its rise; but it has frequently seemed to pro-

\* Med. Trans., vol. iii. p. 56. It has been already noticed, that in the influenza that visited this country in the spring of 1833, old persons suffered with peculiar severity, so that many of them were cut off. — Ed.

† Mem. Med. Soc. of Lond., ut suprà. The opinion on this point, delivered by the author of the art. INFLUENZA in the Cyclop. of Pract. Med., is, that the disorder generally arises from, and is propagated by, some general cause, subsisting in the atmosphere; "but that it is probable a limited propagation also takes place, by personal intercourse, under the influence, and during the prevalence, of the epidemic constitution." — Ed.

‡ Dr. Heberden, Med. Transact. i. art. xviii.

ceed from north to south, though it has occasionally travelled from west to east. That of 1781 and 1782 is said to have originated in China, and to have travelled, through Asia, into Europe; whence it crossed the Atlantic, and arrived the ensuing year in America. But this assertion wants confirmation. If we allow its materies to depend upon specific miasm floating in the atmosphere, we can only account for its preserving its agency so long, and operating in such distant theatres, by supposing that its particles are with great difficulty dissolved or decomposed in the air, even when in its purest state or highest degree of agitation by tempest. Of the specific miasms we are a little acquainted with, some seem to dissolve or lose their power much more readily than others, and hence spread their influence through very confined peripheries; while others are only dissoluble in a pure atmosphere, and consequently retain all their virulence in an air already saturated with other foreign elements.

The chief influenzas that have visited Europe within the last three centuries, occurred in the following order of time:—1510; 1557; 1580; 1587; 1591; 1675; 1709; 1732-3; 1743; 1762; 1767; 1775; 1781 and 1782; since which period, the return of the disease has been little noticed in respect to extent or violence.\*

The remedial treatment needs not detain us long, notwithstanding the violence with which the disease makes its assault. Bleeding, as we have already observed, is rarely required, and, from the debility so soon induced, should be avoided, except in urgent pleuritic pains, which are not common. It was tried copiously by many practitioners in 1782, but they soon reverted to the cautionary track of Sydenham. Quiet, diluent drinks, and the promotion of that easy breathing perspiration which Chenot has distinguished by the name of *diapnoë*, will usually be found sufficient, if the bowels be kept free from confinement.† If the chest be much loaded, an emetic will afford the best relief. And, if the cough be troublesome, and the breathing laborious, both which, however, are generally alleviated by an emetic, small doses of ipecacuan, with or without oxymel of squills, will promote an easy expectoration, and take off the sense of oppression. Dr. Cullen joined these with opium, and was particularly attached to the use of Dover's powder in all catarrhal affections, asserting that there is no disease in which opium has been found more useful.‡ But it generally agrees better

GEN. IX.  
SPEC. II.  
Catarrhus  
epidemicus.

Chronology  
of the chief  
influenzas.

Remedial  
treatment.

Treatment.

\* The influenza of 1831, which occurred subsequently to the author's decease, was generally mild in its character, though almost universal; for it seems to have prevailed in both hemispheres, in India as well as the United States of America. About a month before the epidemic cholera broke out in Warsaw, it prevailed in that city and in the spring and autumn it also swept over great part of England, Scotland, and Ireland. Late in the autumn it attacked Paris, the south of Spain, Gibraltar, and Italy, with more severity than the British Islands. See art. INFLUENZA, in Cyclop. of Pract. Med. — Ed.

† Strong purgatives are generally objected to, in cases of influenza, on account of the tendency to a morbid state of the mucous coat of the bowels, usually accompanying the complaint. — Ed.

‡ Mat. Med., part ii. ch. vi. At the commencement of the disease, opiates are frequently found hurtful, increasing the febrile heat, aggravating the headach, and topping the expectoration; but, in the decline of the complaint, they may be more advantageously given. Our author has not noticed blisters which often afford great relief. A solution of gum ammoniac with oxym. of squills is in these cases a valuable medicine. — Ed.

GEN. IX.  
SPEC. II.  
Catarrhus  
epidemicus.

Subsequent  
symptoms how  
removed.

in common catarrhs than in influenza. The subsequent debility may be removed by a free use of the bark, gentle exercise, pure air, cold bathing, and a liberal regimen; which last, indeed, should be continued through the disease itself. The cough occasionally produced remains sometimes as a sequel, long after the other symptoms have disappeared: and, in this case, opium with camphor or the resinous balsams, or the extract of hemlock or of hyoscyamus, prepared in a steam-heat, often affords essential relief, and especially at night; yet it has not been found that even the symptom of a cough has proved any impediment to the use of the bark, or even that of cold bathing, or been augmented by the practice, as influenza has rarely terminated in phthisis, and, according to Dr. Carmichael Smith, is less disposed to produce this complaint than a common catarrh.

## GENUS X.

### DYSENTERIA.

#### DYSENTERY. BLOODY FLUX.

INFLAMMATION OF THE MUCOUS MEMBRANE OF THE LARGER INTESTINES; GRIPING AND TENESMUS; FREQUENT AND OFTEN BLOODY DEJECTIONS; THE FECES IRREGULARLY DISCHARGED.

GEN. X.  
Most frequent  
in autumn.  
Illustrated.

DYSENTERY is far more frequent in the autumnal months, than in any other season of the year. The animal frame is at this time generally relaxed and debilitated by a long exposure to the stimulus of a high atmospherical temperature, and in many cases to that of the direct rays of the sun. The digestive organs and intestinal canal necessarily partake of this debility, and are more easily irritated and thrown out of the order of health, than at any other time. Hence diarrhœas and colics, and that hepatic flux which by some writers has been regarded, but erroneously, as a variety of dysentery. And hence, also, proper dysentery; which, in a particular state of the intestinal canal, is excited, rather than any of the rest, by causes that are perhaps common to the whole.

Causes.

These causes may be DIRECT or SYMPATHETIC: and, as most of these are peculiarly incidental to hot climates, we may readily perceive why dysentery should be more prevalent in them, than in other situations.

Direct causes.

The DIRECT CAUSES are chiefly those of diet; and may consist of any sudden application of cold to the stomach very much below its actual temperature, as drinking cold water or eating confectionary ices when in a state of considerable heat; eating flatulent herbs, unripe or sub-acid fruits, and especially to excess; or food of little nourishment and difficult of digestion; drinking impure water, and especially when impregnated with the decomposing elements of animal or vegetable substances. In this last case, as well as in one of two of the preceding, the disease is often endemic, and extends to almost every one who is under the influence of such

Striking effects  
of impure  
water.



a cause: of which a striking example occurred, not many years ago, among the soldiers stationed in the old barracks at Cork. While the disease was raging with great violence, it was observed by Mr. Bell, the temporary surgeon, that the troops were supplied with water contaminated by an influx from the public sewers, and rendered brackish by an intermixture with the tide. He instantly changed the beverage, and had the barracks supplied by water-casks from a spring, called the Lady's Well, when the disease almost immediately ceased.\*

We meet with various examples of a like kind. Thus Rolander, while residing with Linnaeus, was repeatedly attacked with this affection, which he ascribed to drinking stagnant water contained in a cistern of juniper-wood. In this cistern was discovered a species of acarus, which Linnaeus, who was fond of resolving almost all diseases into an animalcular origin, immediately regarded as the source of the complaint, and specifically distinguished by the name of *acarus dysenteriae*.†

The SYMPATHETIC CAUSES are those which operate on the intestines through the medium of other organs, chiefly of the skin, or the lungs; as exposure to currents of cold air when the body is heated; wet clothes and wet feet, producing, like the last, a sudden suppression of perspiration. And hence a damp marshy soil, or sudden changes in the atmosphere from hot and dry to cold and moist. And as, in the autumnal months, we find the bowels apt to be directly affected by water contaminated with peculiar impurities, we have reason to believe, that they are also apt to be affected by air contaminated in a particular manner, though we cannot easily trace the specific nature of the taint. And hence the disease assumes an epidemic, as in the former case an endemic range.

But the autumn, which thus peculiarly favours the origin of dysentery and other intestinal affections, gives a like tendency, as we have already seen, to various fevers, and especially to bilious and intermittent. With all these dysentery is particularly disposed to combine, by which the disease is rendered far more complicated; or excites in them a transfer of action, so as to turn aside, in many instances, their regular tenour, and run away with their violence.

When dysentery is accompanied with atonic fever, and a copious discharge of mucous, purulent, bloody, or filmy matter, evidently the result of intestinal ulceration, it is frequently presumed to be contagious; but whether the matter of contagion is thrown forth from the body of the sick, or from the putrescent recrements, has been a disputed point. But the grand question is, whether dysentery ever exists without contagion? or, in other words, whether when the disease exists without those virulent symptoms which are deemed indicative of contagion, it is entitled to the name of dysentery?

Dr. Cullen, who, if he did not first start this controversy, has followed it up with a more peremptory opinion than perhaps any other writer, has contended for the negative of the question; and has hence not only arranged the disease under his class PYREXIE, but generically distinguished it by his character of PYREXIA *contagiosa*: asserting in his Synopsis that he has never met with

GEN. X.  
Dysenteria.

Other ex-  
amples.

Acarus  
dysenteriae.

Sympathetic  
causes.

Effects of im-  
pure air,

apt to combine  
with autumnal  
fevers:

hence the dis-  
order often  
complicated.

Hence often  
contagious.  
Whether ever  
void of con-  
tagion.

According to  
Cullen always  
contagious  
when genuine  
dysentery:

\* Dr. Cheyne in Dublin Hospital Reports, &c. vol. iii. p. 11.

† *Amoen. Acad.*, vol. v. p. 82. et alibi.

GEN. X.  
Dysentery.

more than one species; and still more distinctly in his First Lines, that "the disease is always contagious," and that the contagion is probably at all times specific.\*

[On the other hand, Sydenham makes no mention of any contagion attending the epidemic dysentery, which he has described; and Willis, who speaks of the same epidemic, expressly asserts, that it was not contagious.

Although Dr. Bateman believed dysentery to be contagious in camps and hospitals, he never found the disease, as it occurs in this metropolis, to partake of this character. He states, that the disease was common in London in a sporadic form in the autumn of 1808; yet, that he never once knew it pass to a second person in any family, while its origin could be often satisfactorily traced to exposure to cold and moisture. He was therefore disposed to consider Cullen's doctrine as erroneous.† The epidemic dysentery which prevailed at Glasgow in the autumn of 1827, and which has been described by Mr. Brown, is also stated by that gentleman not to have been infectious.‡]

and the contagion specific :

Dr. Parr and Dr. Young make a nearer approach to the general opinion of Dr. Cullen, than any other nosologists that I am acquainted with. They regard the disease as an inflammatory affection; but differ from Dr. Cullen inasmuch as they do not believe it to be essentially and at all times contagious: the former limiting himself to the expression that it is *generally* so; the latter, that it is *often* so.

though some writers pay no attention to its possessing contagion or fever.

The earlier nosologists, however, have laid little or no stress on either the pyretic or the contagious character of the disease; and hence in Sauvages, Linnæus, Vogel, Sager, and Machride, it occurs as a genus under the division, not of fevers, but of fluxes, without any notice of fever or contagion, except as a distinctive symptom in some of their species.

Dispute continued among modern tropical writers.

The practitioners in warm climates, and even the monographic and clinical writers of our own country to the present moment, are as little agreed upon the subject of a specific contagion. Pringle, Hunter, Harty, Balfour, and Chisholm, contend strongly for the existence of such a principle; the last of whom asserts that "few diseases are more apt to become contagious.§ Johnson, Ballingall, Bampffield, and Dr. L. Frank, either deny it altogether, or have not met with any instance of it in their own practice. [Dr. Renton also, in his description of the dysentery of Madeira, distinctly affirms, that "the disease is certainly not contagious. The lower orders of the inhabitants, its principal victims, live huddled together in close crowded sties; but (says Dr. Renton) I have never seen two cases in the same family at the same time."¶] So in the late alarming attacks of this disease in Ireland, it was not regarded as contagious *at that time* at Cork, by Dr. Barry ¶, or at Limerick by Dr. Perston \*\*: while Dr. Hallaran, practising also at Cork ††,

How regarded of late in Ireland.

\* Part I. book v. chap. ii. sect. MLXXV.

† Rees's Cyclopædia, art. DYSENTERY.

‡ Glasgow Med. Journ., vol. i. p. 55.

§ Climate and Diseases of Tropical Countries, p. 54. 8vo. 1822.

¶ See Med. Chir. Trans. of Edinburgh, vol. ii. p. 376.

¶ Dublin Hospital Reports, &c. vol. iii. p. 10.

\*\* Id., p. 81.

†† Id., p. 9.

observes that it was obviously contagious on many occasions; Dr. Poole that it was contagious at Waterford\*; Mr. Dillon that it was the same at Clonmell†; and Dr. Cheyne, to whom we are indebted for the best, as well as the most extensive, clinical history of this disease, that it was at Dublin in some cases contagious, and in some not: being decidedly so when connected with continued fever; and uncontagious in its simple form, or when combined with an intermittent. This last opinion harmonizes most with the present author's experience: and especially when the disease has been epidemic or endemic.

This view has the full countenance of another very able and experienced writer of our own day, Dr. O'Brien, of Dublin. He has never found the disease decidedly contagious; but supposes it may become so when the disease is epidemic, and the accompanying fever, in camps or other crowded stations, assumes a malignant or typhous form‡; being, in effect, the opinion offered concerning it many years ago by Dr. Harty.§

In truth, we meet with a like associate process in influenza, from an inflammatory affection and increased secretion in the mucous membrane of the nostrils, instead of in that of the colon: for we have already seen, that the disease at first, simply epidemic or atmospherical, at length becomes contagious, and is capable of communicating its like to whatever distance the patient may be removed from the line of tainted atmosphere. And we are hence enabled to enter fully into the following variety of causes, traced out on the spot by Dr. Cheyne in the late extensive call upon the whole of his judgment and talents. "I have analyzed ninety-eight cases. Thirty-three arose during recovery from fever: fifteen while the fever was in progress: fifteen from cold, or cold and wet: four from indigestion. The rest were doubtful: but many had been exposed to febrile contagion, and nine in close communication with patients labouring under dysentery: four had been nurses in wards where the disease had occurred: four had slept with dysenteric patients, of whom one had used the same night chair."|| We may here readily subscribe to his own language, and say, "it has rarely fallen to the lot of a physician in civil life, possessing all the advantages of books, and of consultation with skillful and experienced colleagues, to witness dysentery upon such a scale."

[In a later paper on the subject, Dr. O'Brien speaks of one of his patients, who supposed that he caught the disease either by lying near another person affected with dysentery, or by using the same night chair. One other instance occurred, Dr. O'Brien remarks, in which a tolerably strong presumption at least existed of the propagation of the disease by contagion; viz. the case of Kelly, the whole of whose family, amounting to six in number, were attacked in succession. But Dr. O'Brien has met with no other strong, or probable instance, of the communication of the disease by contagion.¶] Dr. Cheyne tells us, that Dr. Prevost

GEN. X.  
Dysentery.

Cheyne.

When contagious and when not.

O'Brien.

Principle paralleled in influenza.

Pathological analysis of Cheyne.

\* Dublin Hospital Reports, &c. vol. iii. p. 7.

† Id., p. 5.

‡ Obs. on the Acute and Chronic Dysentery of Ireland, &c. Dublin, 1822.

§ Obs. on Simple Dysentery and its Combinations, 8vo.

|| Medical Report, &c. p. 18.

¶ Trans. of King's and Queen's College of Physicians, vol. v. p. 227. Dub-



GEN. X.  
Dysentery.

of Geneva, at that time one of the clinical clerks of the Whitworth Hospital, conceived he had contracted the disease he was then labouring under, in the *dissecting-room*, where he spent much of his time *hanging over the bodies* of those who had died of dysentery.\*

Sometimes becomes chronic.

When the disease has run through its acute stage with great severity, but without destroying the patient; and, not unfrequently, perhaps, when it has been something less severe, but unskillfully treated, it assumes a chronic character, exhibits symptoms peculiar to itself, and, as Sydenham observes, will continue to afflict the patient for several years. In this case, the structure of the liver, as well as that of the intestines, is almost always injured. If the lesion be not considerable, the patient may at length recover; but very generally the termination, though protracted, is still fatal. Dr. L. Frank, indeed, regards it as even more fatal than in the acute form.

In this form dysentery sometimes primary.

It is not always that the disease under this shape is a sequel of acute dysentery, and especially among those who have predisposed themselves to it by an antecedent life of intemperance. Dysentery has on this account, of late years, by many writers both at home and abroad, been divided, as a genus, into the two species of acute and chronic, the pyretic form being contemplated as a variety of the acute division:—

1. DYSENTERIA ACUTA.
2. ————— CHRONICA.

ACUTE DYSENTERY.  
CHRONIC DYSENTERY.

## SPECIES I.

### DYSENTERIA ACUTA.

#### ACUTE DYSENTERY.

FECES DISCHARGED WITH DIFFICULTY, MOSTLY IN SMALL QUANTITIES, AND ALTERNATING WITH MUCOUS OR BLOODY DEJECTIONS; PAIN OR TENDERNESS IN THE ABDOMEN: TERMINATING WITHIN A MONTH.

GEN. X.  
SPEC. I.  
Bowel complaints, why most frequent in summer and autumn:

WE have already observed, that the atmospheric temperaments, chiefly calculated to produce severe bowel complaints, are those of summer and autumn; when the liver is excited to a larger secretion of perhaps more pungent bile, from the greater heat of the weather; the skin is exposed to more sudden transitions from free to checked perspiration; and the exhalations that rise so abundantly from marshes and other swamps too often give an epidemic character to the atmosphere, and lay a foundation for

lin, 1828. Dr. Elliotson observes, that the sporadic cases, which are occasionally met with in this country, amongst persons who have returned from hot climates, are certainly not contagious. Without denying that the disease may be contagious in warm countries, he expresses his belief that it is not so in England. Lectures at the Lond. Univ. as published in Med. Gaz. for 1833, p. 555. — Ed.

\* Dublin Hosp. Rep., vol. iii. p. 18.

intermittent and remittent fevers: and we may hence see why dysenteric and other bowel affections, like intermittents, were far more common in our own country about a century ago, than they are at present; the soil being more generally drained, and the atmosphere less humid.

We have here also sufficient ground for local and general affection, and may readily see how it is possible, from the operation of one of these causes singly, or of two or all of them jointly on an irritable state of the intestines, for all or any of the local symptoms to be produced, which enter into the generic or specific definition of the disease before us; as also how it is possible for these symptoms to be combined with fevers and other disorders of various kinds and various degrees, so as to render the complaint peculiarly complicated and dangerous: though we have not yet been able to find out what are the precise causes that, operating locally, produce the distinctive symptoms of dysentery, rather than those of diarrhoea, cholera, or any other irritation, or spasmodic action of the intestinal canal. This may, perhaps, sometimes depend upon idiosyncrasy, sometimes upon accident, and, in the severer cases, upon contagion or a specific miasm.

The symptoms, however, already noticed sufficiently point out the general seat of the disease: the tormina or griping pains, the region most affected by them; and the costiveness or nodules of feces that are dejected; the existence of spasmodic constriction in or about the colon, or the upper part of the large intestines. And while such is the state of the canal above, the excessive straining or tenesmus, accompanied with a discharge of simple or bloody mucus, shows, as distinctly, the existence of great irritation in the sphincter or its vicinity. In some cases, one of these parts is more affected; and in some, another: and hence the origin of most of the disputes concerning the precise spot of the disease.

The ordinary exciting cause, however, of acute dysentery, under all its varieties of fixation, there can be little question, is suppressed perspiration, or a sudden chill applied to the surface, acting in conjunction with the predisposing cause of an atmosphere varying rapidly from heat to cold, and from moist to dry; but by what means this exciting cause operates upon the larger intestines, rather than upon any other cavity, or produces the symptoms of dysentery, rather than those of diarrhoea, cholera, or colic, we seem to be incapable of determining. We perceive, however, in the events of every day, that sudden chills on the surface are possessed of a revellent power, and throw the action which is lost on the skin on various internal organs, and especially on cavities of mucous membranes, which, in consequence of this excitement, become inflamed, and pour forth an additional secretion. Such is especially the case in rheumatism and catarrh, both which terms are derived from the same Greek root, and import defluxion. And, from this common character, the three diseases have by some pathologists been conceived to be so much alike, that dysentery has been regarded as an intestinal rheumatism by Cælius Aurelianus, Aken-side, Stoll, and Richter; and is actually set down, by Dr. Parr, as a species of catarrh, in his nosological classification.

We also see why dysentery, like catarrh, may be either sporadic or epidemic; as also why, in each case, it may be either slight,

GEN. X.  
SPEC. I.

Dysentery  
acuta.

why less com-  
mon now than  
formerly.

and hence  
dysentery in  
the same  
seasons.

alone or com-  
bined with  
other diseases.

General seat of  
the disease.

Sometimes one  
part more af-  
fected than  
another; and  
hence disputes  
concerning its  
immediate seat.

Ordinary ex-  
citing cause,  
suppressed  
perspiration  
from cold.

Its action il-  
lustrated

by that of  
rheumatism  
and catarrh.

GEN. X.  
SPEC. I.  
Dysenteria  
acuta.

and pass off, without any serious evil, in a few days, or accompanied with great inflammatory action and continued fever; thus giving rise to the two following varieties:—

α Simplex.  
Simple acute dysentery.

Feces often discharged without considerable pain; of a natural quality and affording ease: abdominal tenderness unheeded. Stools frequent: in every way diversified both in colour and consistency: severe pain in the abdomen: fever considerable, mostly a synochus.

β Pyrectica.  
Pyrectic dysentery.  
Dysenteric fever.

Thus arranged  
by Sydenham.

These are the two varieties under which acute dysentery is described by Sydenham, who indeed limits himself almost entirely to these forms of the disease, since, though he notices the second species, or chronic dysentery, he merely glances at it in a kind of postscript to his chapter. Yet his description of both is so accurate, and his general mode of treatment so judicious, that they have received the sanction of the most approved pathologists from his own day to the present.

Colonitis of  
Ballingall.

As the local inflammatory action is more usually traced in the colon than elsewhere, Stoll\* and various other writers have fixed upon this intestine as its proper seat; and hence Dr. Ballingall has distinguished it by the name of *colonitis*.†

Functions of  
the skin and  
liver affected  
at the same  
time.

Although, in dysentery, the primary seat of inflammatory action is the intestines, yet the functions of the skin and of the liver are from the first, as well as throughout the whole course of the disease, considerably disturbed by sympathetic excitement. The liver, however, suffers in many instances, not only on this account, but from a continuous spread of the inflammatory action through the medium of the biliary ducts, and becomes injured in its organisation as well as in its function. Some pathologists, as Dr. Chisholm, conceive that they can trace this extension of the inflammatory process to the liver by particular symptoms, as a fixed pain at the stomach, a constant headach, and frequent dejections at the commencement of the disease; and they have consequently given us a distinct division of it, under the name of *hepatic dysentery*. It is sufficiently ascertained, however, that the structure of the liver has been often considerably affected, and even destroyed, when neither these nor any other peculiar symptoms have presented themselves; and hence it is a distinction which can be made no use of. A frequency of dejections at the commencement is rather an anomalous fact than a pathognomonic sign: while, as to the other two indications, it is admitted by Dr. Chisholm himself, that they are “apparently not characteristic symptoms;” in other respects, says he, “the disease does not seem to differ from the idiopathic or common dysentery.”

Hepatic dys-  
entery of  
Chisholm.

Doctrine that  
the liver forms  
the primary

Some writers, however, as Piso‡ formerly, and Dr. James

\* Rat. Med., part iii. pp. 294. 326.

† In the Diet. de Méd. it is described under the name of *colite*. See tom. v. — Ed.

‡ Discours sur la Nature, &c. des Maladies accompagnées de Dysenterie, 1623.



Johnson in our own day \*, have carried this view of the subject considerably farther, than my late learned and venerated friend Dr. Chisholm ever intended; for they have holdly reversed the general opinion that has prevailed, and especially since the days of Sydenham, and contended that the liver itself forms in every instance the primary seat of the disease, the intestines being only affected secondarily. Whence the latest of these two distinguished authors has ventured a scoff at the pathology of Sydenham, "who," says he, "it is our firm belief, never examined a dead body after he left his academical studies;—at least he has given us no indication of pathological knowledge in any of his works." †

I value Dr. Johnson's friendship, and have an equal value for his talents; but I cannot concur with him in thus tearing from the temples of an illustrious countryman the wreaths of honour he has so deservedly earned, and which have been bestowed on him by our best foreign as well as domestic judges, from Boerhaave and Sauvages, in the middle of the last century, to the younger Frank in the present day. His language, indeed, is tinctured with the prevailing errors of the humoral hypothesis, which at that period it was impossible altogether to avoid, and which is again rising into notice in some quarters; but, sifted of this, his pathological doctrines are those of the present day, to which in the main they have given rise; and better stand the test of dissection, than those of Dr. Johnson himself. "His observations," says Dr. Bos-tock, "will be commonly found to be correct, although his hypotheses are too often fallacious." ‡ These "observations" teach us, in few words, that dysentery is an inflammatory affection of some part of the larger intestines, which, in its idiopathic and milder state, subsides without serious evil in a few days; but which, occurring in the autumn, is apt to associate itself with whatever febrile epidemic is then prevalent, to become a far more important and complicated malady, and to ravage over a much larger field of organization; the fever aggravating the dysentery and the dysentery the fever; while, not unfrequently, a metastasis ensues, and the fever is thrown upon the intestinal canal, and expends its violence topically: during which vehemence of action a peccant material (the contagious principle of Dr. Cullen) is elaborated in the constitution and thrown out on the surface. To oppose all which, he lays down a therapeutic plan, which evinces an equal degree of judgment; and consists in bleeding, purging, diaphoresis, and opium; in other words, in taking off congestion and inflammatory action, in allaying irritation, and restoring to the circulatory system its proper balance. It may perhaps be said by some modern writers, that he did not always carry these principles far enough. Possibly not in every instance; but this must altogether depend upon the severity of the disease. And we have a proof, in his own success, that he carried them far enough in general; while his great merit consists in the establishment of such principles; and in squaring a correct line of practice to a correct pathology. It may also be objected, that calomel does not appear to have entered into his list of deobstruents. That he did not use it

GEN. X.  
SPEC. I.  
Dysentery  
acuta.

seat of disease,  
as opposed to  
that of Syden-  
ham.

Sydenham  
illustrated.

\* Influence of Tropical Climates, &c. edit. 3. p. 197.

† Medico-Chirurg. Rev., Mar. 1823, p. 830.

‡ Elementary System of Physiology, vol. i. p. 448. 8vo. 1824.

GEN. X.  
SPEC. I.  
Dysentaria  
acuta.

Shown to be  
in coincidence  
with the best  
opinions and  
practice of the  
present day.

α D. acuta  
simplex.

Diagnostics of  
Sydenham.

How described  
by Cheyne.

Bampffield.

among other *cathartics*, shows, evidently, that his cathartic catalogue might have been improved; but to have employed it as a *sialagogue*, and to have *depended* upon curing the disease, *almost exclusively*, as his loudest opposers have endeavoured to do, by ptyalism—however valuable such a process may be in a few instances—would not, I fear, have added to his reputation, or increased the number of his followers.

Had the animadversion, indeed, which I have thus felt it my duty to notice, been delayed but a few months, it is most probable that it would not have been advanced at all. For whilst the learned writer who has made it, had already to struggle with perhaps a majority of the most judicious tropical writers, in denying the existence of contagion at all times, and regarding the very opinion as absurd\*; he would have found in the admirable treatises on dysentery, which have since been furnished us from Ireland, not only that this opinion, as already observed, seems to have a firm foundation under particular circumstances; but that his favourite doctrine, that the liver is the primary seat of the disease, is completely unhinged; as also that his favourite plan of treatment has as little succeeded here, as it did in India under Dr. Ballingall, or, as Dr. Frank informs us, it did in his hands in Egypt during the occupation of that country by the French army.

The diagnostics of the first variety, or SIMPLE ACUTE DYSENTERY, unaccompanied with the prevailing fever of the season, are thus accurately laid down by Sydenham:—

“But frequently there is no appearance of fever; for the host of gripings take the lead and the dejections follow. The gripings are always severe, and a sort of painful descent of the bowels accompanies every evacuation. The discharges are chiefly mucus, but an excrementitious stool sometimes intervenes without considerable pain. The mucous stools are generally streaked with blood; but, in some cases, there is no such appearance through the whole course of the disease. Nevertheless, if the stools be frequent, mucous, and accompanied with gripings, the disease may as justly be called a dysentery as if blood were intermixed with them.”

These constitute the ordinary symptoms of the simple variety. And to the same effect Dr. Cheyne:—“When dysentery was unconnected with continued fever, which apparently was often the case, there was nothing peculiar in its origin. The patients generally assigned cold, damp, fatigue, hardships, indigestible food, as the causes of their disease, which began with confinement of the bowels, chills, pyrexia, tormina, unsatisfactory stools, and tenesmus.”† It is correctly observed by Dr. Chisholm, that, “when, after the straining has continued for a few days, the stools are intermixed with blood, the blood never thoroughly combines with the slime or mucus so as to produce a uniform colour‡,” but, as Sydenham observes, “appears distinctly or in streaks.”

It is remarked by several of the practitioners in India, and especially by Mr. Bampffield, that the dejections are more frequent

\* Influence of Tropical Climates, edit. 3. p. 223.

† Dublin Hospital Reports, vol. iii. p. 18.

‡ Climate and Diseases of Tropical Countries, p. 54.

during the night and especially towards morning, than at any other period of the twenty-four hours: and that the attacks and relapses of the disease are more common at new and full moon, than at any other period of the lunar revolution: and the influence of the heavenly bodies is referred to as the cause of these peculiarities. \* The remark does not seem to be sufficiently established.

In its most favourable course, the symptoms gradually subside in a week or ten days, and sometimes even sooner, the skin becoming soft and moist, and the circulating fluid recovering the natural freedom of its current. If the symptoms augment, all the local mischief of ulceration and gangrene follow, which we shall have to describe presently, or the disease will become CHRONIC.

In the SECOND VARIETY, or DYSENTERIC FEVER, as it is called by many writers, all the preceding symptoms are highly aggravated, and others are superinduced by the action of the fever itself.

The preceding variety may occur at any season of the year, though, for reasons already stated, the disease, under every form, is most frequently to be met with in the estival and autumnal months: it is very rarely, however, that the pyretic variety is to be found in any other than these two seasons; nor even in these, unless there be some endemic or epidemic fever prevailing, with which dysentery can combine.

Of its readiness to do this, and even to convert almost all the other diseases of the season into its own form, so forcibly pointed out by Sydenham, the late ravages in Ireland have furnished us with the most undeniable proofs. "The bilious fever of the autumn," says Dr. Cheyne, "continued till near the termination of winter; consequently it existed as long as the dysentery was prevalent in the hospitals and the House of Industry, or the symptoms were often exchanged for those of dysentery, the irritation from the mucous membrane of the stomach and small intestines probably extending to the large." † And again, "dysentery was sometimes converted into fever, while, *vice versa*, fever was converted into dysentery: in short, these forms of disease were convertible the one into the other; so that the opinion of Sydenham, that dysentery is a *febris introversa*, or turned in upon the intestines, received support from our observations. And it is not unreasonable to suppose, that as these patients in my wards, in common with most of the poor in the city, had been exposed to the contagion of fever; this CONTAGION, according to the condition of the system at the time of its application, or some other modifying circumstance, may have produced at one time fever, at another, dysentery." ‡

And so of other diseases as well as the prevailing fever of the season. "In early autumn, cases of cholera degenerated into dysentery, and, in the spring following, symptoms of dysentery accompanied the measles, then epidemical in many parts of Ireland." §

It is from the peculiar tendency which dysentery has to unite with other diseases, and especially fevers, or to convert them into its own nature, that many pathologists of considerable name have regarded it as nothing more than fever with a peculiar "local

GEN. X.

SPEC. I.

a D. acuta simplex.

Said to be affected by solar or lunar influence.

Progress of the disease.

β D. acuta pyretica.

Dysenteric fever.

When it chiefly occurs.

Apt to combine with any prevalent fever.

Illustrated.

As also with other diseases of the season.

Doctrine that dysentery is a symptom of some other complaint examined.

\* On Tropical Dysentery, 8vo. 352. 1819.

† Dublin Hospital Reports, vol. iii. p. 17.

§ Id., p. 16.

‡ Id., p. 19.



GEN. X.  
SPEC. I.  
β D. acuta  
pyretica.  
Jackson.  
Putrid intesti-  
nal remitting  
fever of  
Balfour.  
Often a disease  
of atony.

And hence  
united with  
scurvy of late  
in Millbank  
Penitentiary.

The dysentery  
scurbutica of  
Cirigli and  
others.

Pyreetic variety  
described.

As it appeared  
at Dublin.

Scybala  
whether dis-  
charged or not.

Their occa-  
sional form-  
ation account-  
ed for.

mode of action," to adopt the language of Dr. Jackson. And they hence endeavour to show that, when dependent upon a cause of endemic fever, it is often intermittent; when dependent upon a cause of contagious fever, it is contagious\*; and, when dependent upon a cause of typhous fever, it is malignant or putrid;—in the language of Dr. Balfour, as applied to the dysentery of India, a "*putrid, intestinal, remitting fever.*"†

Most of the French writers of the present day describe dysentery as essentially an atonic or adynamic disease, and hence peculiarly apt to fall into this last form; and Dr. L. Frank represents this as the form it assumed, with little deviation, among the French army in Egypt, and believes it to be the ordinary form of hot climates.‡ And we can hence see, where there is much fibrous debility with but little fever, and especially where this is produced by poverty of diet, that it may occasionally connect itself with that kind of scorbutic affection which appeared some time ago among the convicts of the Millbank Penitentiary, and lay a foundation for such a form of the disease as was long ago denominated *dysentery scorbutica* by Cirigli and Brambilla§, and has been distinguished by the same name, in our own day, by Mr. Bampffield.¶

In the pyreetic variety, therefore, the fever is found to vary according to the diathesis or surrounding circumstances. The functions of the liver and skin are disordered from the commencement, and continue so till the termination. In the dysentery at Dublin, in the autumn of 1818, the skin was obstinately dry, hot, and pungent; and, "judging," says Dr. Cheyne, "by the appearance of the stools, the biliary secretion was often suspended for many days."¶ Scybala were here never found in the discharges, nor often in the intestines; and they by no means appear so frequent as have been represented by many writers; insomuch, indeed, that it has of late been doubted by some authorities whether they are ever to be traced at any time or in any country. Dr. Johnson has freely imbibed this doubt\*\*: Dr. Ballingall tells us that "it is comparatively a rare occurrence in India††: while Dr. Chisholm speaks of them, on the contrary, as an ordinary symptom, and particularly adverts to the case of one patient under his care, who, "on the tenth day of the disease, after a paroxysm of excruciating torture, attended by cold sweats and deliquium, spontaneously discharged at three evacuations a quantity of scybala sufficient to fill a common-sized chamber-pot."‡‡ There is hence no reason to question their occasional formation, notwithstanding they are rarely to be traced on many occasions in the dysentery of any climate: their production, indeed, is easily accounted for from the spasmodic constrictions which so often run through a very considerable range of the intes-

\* Jackson, Hist. and Cure of Fever, Endemic and Contagious, part i. ch. xiii. p. 324.

† On Sol-lunar Influence, p. 17.

‡ Consult. LIX. T. II., p. 135.

§ Phlegm., tom. ii. p. 337.

¶ Practical Treatise on Tropical Dysentery, &c. 8vo. 1819.

¶ Cheyne, ut supra, p. 22.

\*\* Johnson, Influence of Tropical Climates, &c. p. 223. et passim.

†† Practical Observations on Fever, Dysentery, and Liver Complaints, &c. 2d edit. Edin. 1823.

‡‡ Climate and Diseases of Tropical Countries, &c. p. 56. See also Cleghorn on the Diseases of Minorea, p. 252.

times; and there is hence, *primâ facie*, more reason for anticipating than for not expecting them. Mr. Pack, who had formerly witnessed them in the Mediterranean, was surprised at not meeting with the same appearance at Kilkenny, in the epidemic of 1818, and could not avoid adverting to the dissimilarity of the disease in this respect in these distinct quarters.\*

The patient, on going to stool, whatever be the discharge that ensues, has always a feeling of something remaining in the bowels which ought to be dejected; while the dejections themselves, according to the extent and violence of the inflammatory action and its effects, evince every combination of materials: being in consistency watery, like beef-washings, slimy, mucous, purulent, bloody; in hue, drab-coloured like flummary, bright green like conferva, and, after opium and calomel, deep green; sometimes pitchy†, and extremely fetid: and sometimes loaded with shreds of detached membranes; while occasionally a feculent motion is thrown down, of a natural colour, and nearly of a natural spissitude. Meanwhile, to adopt the description of Sydenham, the strength is much exhausted, the animal spirits dejected; there are all the signs of an ill-conditioned fever; intolerable sickness and excruciating pains, and a deadly coldness of the extremities; insomuch that the disease, in many instances, and especially when unskillfully treated, endangers the patient's life much earlier, than in most other acute diseases. But, if the patient should escape death in this way, still numerous symptoms of a different kind succeed. Sometimes, in the progress of the disease, instead of the membranous shreds which are usually mixed with the stools at the commencement, pure blood, unmixed with mucus, is profusely discharged at every evacuation, which of itself threatens death, as manifesting an erosion of some of the larger vessels of the intestines. Sometimes a fatal gangrene seizes the intestines. Towards the close of the disease, aphthæ frequently affect the interior of the mouth, and generally foreshew imminent death.

The rapidity with which acute dysentery, when connected with fever, rushes on to destruction, is particularly noticed by Dr. Cheyne, who ascribes the fatal issue in this case to the violence of the fever itself, rather than to the proper dysenteric symptoms: though he adds, that sometimes sudden death ensued from an escape of the contents of the intestines into the cavity of the peritoneum, in consequence of ulceration.‡

The afflux of hot acrid matter alluded to by Sydenham is not unfrequently derived from the liver, and indicates a very morbid condition of this organ; and to the same effect Dr. Johnson:—"We sometimes see a partial ill-conditioned sweat on the surface, which is productive of no benefit: while from the liver an occasional gush of vitiated bile, like so much boiling lead, throws the irritable intestines into painful contortions, and then the tormina and tenesmus are intolerable."§ There is occasionally, at this time, a formation of black vomit, the stomach discharging frequently a dark fluid, with a precipitate like coffee-grounds.||

GEN. X.

SPEC. I.

§ D. acuta  
pyretica.Dejections  
complicated of  
all materials.Progress of  
the disease.Sometimes  
pure blood  
discharged.Sometimes  
gangrene.

Aphthæ.

Fatal issue  
often rapid.Afflux of hot  
acrid matter.Sometimes  
black vomit.

\* Dublin Reports, &amp;c. ut supra, p. 20.

† O'Brien on Acute and Chronic Dysentery, p. 58.

§ Influence of Tropical Climates, ut supra, p. 194.

|| Dublin Hospital Reports, vol. iii. p. 32.

† Ubi supra, p. 20.

GRN. X.

SPEC. I.

β D. acuta  
pyretica.Whether signs  
indicative of an  
affection of the  
liver.Sometimes the  
lungs affected.Fatal pro-  
gnostics.Mortality often  
dreadful.Post-obit  
examinations.  
Chief seat of  
disease in the  
intestines.Affected in  
various ways.

Dr. Chisholm observes, that the principal signs of the disease having extended to the liver are, a "pain at the pit of the stomach, and a headach, a considerable anxiety at the præcordia, and a sensation as of a continued pressure in the right hypochondrium, with frequent stools, composed of a fluid like the washings of raw meat."\* But he admits, as we have already noticed, that these are not idiopathic, and, consequently, are not to be depended upon for this purpose. They prove, however, that the disease has made an extensive inroad upon the constitution. Not unfrequently the lungs themselves are affected, not merely in their function, but in their structure: for their respiration, observes Dr. Cheyne, was sometimes suddenly suppressed in the advanced stages; there was pain in the chest, a teasing, dry cough, showing a translation of the disease to the lungs; an exudation of puriform mucus in the cavity of the bronchia being detected on dissection.†

"A harsh, dry, opaque, dirty-looking skin; a florid, clear, varnished tongue; vigilance; a hollow eye, and pallid, wasted, faded cheek; pains in the knees; cramp in the legs; fits of dyspnœa; tendency to œdema and ascites—belonged to the more advanced stage, but not to the last, which was characterised by extreme emaciation, supine posture, involuntary stools, a thin reddish secretion, flowing without check; sordes on the teeth; hiccough; tendency to delirium; difficulty of swallowing; thread-like pulse."‡

The mortality is often dreadful. At Clonmel, in 1818, where, however, it was far less severe than in many other parts of Ireland, Mr. Dillon calculated the deaths at one in ten; at Cork, during the same year, Dr. Barry estimated it at one in three at the least. "I never," says he, "witnessed so fatal a disease." And to the same effect, in general terms, Dr. Cheyne, while practising at Dublin:—"I had often witnessed obstinate cases of dysentery, but I had not formed an adequate conception of the horrors of that disease, until I saw the patients who were congregated in the wards of Whitworth hospital." [Sir James McGrigor, in his Account of the Diseases of the Army in the Peninsula, mentions that, in three years, the loss from the ravages of dysentery was 4717; and Dr. O'Beirne§ calculates that the number of cases was 40,000. According to Desgenettes, dysentery made more havoc among the French troops in Egypt than the plague; for, while, in a given period, 1689 were carried off by the plague, 2468 perished from dysentery.]

POST-OBIT EXAMINATIONS were made in the dissecting room of the Whitworth hospital upon a very extensive scale, and gave evident proof, first, that the primary and CHIEF SEAT OF THE DISEASE WAS THE INTESTINES; though the liver often participated in the general lesion; and, secondly, that the intestinal canal was very variously diseased, according to the length or severity of the attack, or the peculiarity of the patient's constitution.

In some cases, the canal was prodigiously distended; in others, the coats were greatly injured, but without any thickening; in others, again, they were considerably thickened, as well as otherwise diseased,

\* Ubi suprâ, p. 59.

† Suprà, p. 25.

‡ Suprà, p. 23.

§ See Trans. of King's and Queen's Coll. of Physicians, vol. iv. p. 407. Dublin, 1824.



Where distention prevailed, the small intestines were in a few instances found to be not less than seven, and the large not less than nine, inches in circumference.

Where the intestinal coats were *without incrassation*, the inflammation of the mucous membrane was sometimes still very extensive, and reached from the stomach to the rectum; being, however, more obvious as the larger intestines were approached; though occasionally this last intestine was still pretty sound for three or four inches above the sphincter. The vascularity of the mucous membrane was sometimes increased without abrasion, or ulceration; sometimes the same part was covered with coagulable lymph; sometimes simply abraded of its epidermal coat; sometimes partly ulcerated, and irregularly exposing the muscular coat; the intervening portions being of a natural appearance.

Where the intestinal coats were *thickened*, the mischief seems to have been generally more severe; the internal surfaces were often rugous as well as ulcerated, exposing the muscular fibres more extensively, which often hung in shreds as if sphacelated. The process of thickening, moreover, belonged to the more protracted cases, and often measured the duration of the disease.\*

This incrassation is traced chiefly in the colon, which Dr. Chisholm has found sometimes a quarter of an inch thick, and full of minute abscesses, and small scatomatous excrescences.† These last appearances are particularly noticed by Dr. Cheyne, but described differently: "they are not," says he, "small ulcers, but minute pinholes formed out of the enlarged ducts of mucous glands; they were found very numerous, but especially in the rectum, and lower part of the colon." By Dr. Baillie they are described as excrescences resembling warts.‡

"The LIVER," says Cheyne, "IN A MAJORITY OF CASES, WAS SOUND, but often otherwise. In *two* cases, there were abscesses; and in many, great sanguineous congestion."§ To a like effect Dr. O'Brien, writing from the same capital at a later period: "Generally," says he, "the liver was unaffected; though the gall-bladder was always distended with deep-brown, or dark-yellow bile."¶ Both these appearances were particularly observed by Dr. Chisholm in the West Indies, thus again harmonizing the nature of the disease in climates of different temperatures. "Where the colon was thus diseased, it was prodigiously distended with air. All the rest of the intestinal canal was healthy, the liver was equally so; but the gall-bladder was of a most uncommon size, and full of yellow bile."‡ The same undeviating show of mischief in the intestinal canal, with only an occasional appearance of morbid structure in the liver, occurred to Dr. Ballingall in India, and to Dr. L. Frank in Egypt: so that the real source of the disease can be no longer a matter of doubt. "The dissection of every subject," says the former, "who died of dysentery in the regimental hospital of Penang (with one solitary exception), proved the disease to

GEN. X.  
SPEC. I.  
β D. acuta  
pyretica.

Disease long  
and severe  
when the coats  
are thickened.

This effect  
chiefly in the  
colon.

Liver com-  
monly sound,  
but often  
otherwise.

\* Medical Report, &c. pp. 28, 41.

† Climate and Diseases of Tropical Countries, p. 56.

‡ Morb. Anat., fascic. iv. pl. iii. p. 73.

§ Medical Reports, &c. p. 36.

¶ Observ. on the Acute and Chronic Dysentery of Ireland, Dub. 1822.

‡ Climate and Diseases, &c. p. 57.

GEN. X.

SPEC. I.

β D. acuta  
pyretica.Summary of  
twelve dissec-  
tions.Medical  
treatment.Practice of  
Cheyne :

of Sydenham.

Injections.

His principles  
not easy to be  
improved upon.How far bleed-  
ing advisable.

consist entirely in an inflammatory affection of the large intestines, without a trace of disease in the structure of the liver." \*

[In a late essay † on the present subject, Dr. O'Brien has recorded the dissections of twelve dysenteric patients. The summary is as follows: liver diseased in six; spleen in three; small intestine (chiefly ileum) inflamed, or ulcerated on its mucous surface, in eight; great intestine diseased in twelve; gangrenous in one; much contracted in two; ulcerated and inflamed in all; colon and rectum parts most diseased.]

The MEDICAL TREATMENT of dysentery has given rise to much warfare of opinion. Not, however, in slight cases of the simple acute disease; for such usually give way in a short time to the ordinary evacuants and sedatives. "In cases," says Dr. Cheyne, "not attended with much fever or pain, and in the first few days of disease, a purgative in the morning, ten grains of Dover's powder in the afternoon, and again at bed-time, with low diet, restored many." ‡

Sydenham generally commenced with bleeding, gave an opiate at night, and a pretty active purgative in the morning: the purgative consisting of a drachm and a half of rhubarb, two drachms of senna, with half an ounce of tamarinds infused in a sufficient quantity of water; with manna and syrup of roses. The purgative was repeated twice every other day, and in every instance followed up with an anodyne of sixteen or eighteen drops of his own potent laudanum, to take off whatever additional excitement the purgative might produce. The same anodyne was constantly given with a warm diaphoretic, every night and morning, even on those days when the aperient was not employed.

Where this was insufficient, the sedative was repeated every eight hours to the amount of twenty-five drops at a dose, and a perspiration was still further attempted to be promoted and maintained by drinking freely of whey or the white decoction, and the use of warm emollient injections; the perspiration being continued for at least twenty-four hours at a stage, the only beverage allowed in the meanwhile being tepid milk.

The tormina and bloody stools usually gave way after the third or fourth injection. But where the morbid secretion ran into a chronic character, he varied the form and intention of the injection; and, with a view of introducing a new and less unhealthy action, compounded it of half an ounce of Venice turpentine dissolved in a pint of cow's milk, which was thrown up daily: thus anticipating, in a very considerable degree, the modern practice of obtaining the same effect by the balsam of copaiba, which is only a terebinthinate of another kind.

The *principles* of this practice it is not easy to improve upon; though they have since been modified and often extended with considerable advantage.

As a general rule, the lancet was had recourse to with too much timidity; though its present indiscriminate and lavish employment

\* Practical Obs. on Fever, Dysentery, and Liver Complaints, &c. 2d ed. 8vo. Edin. 1823.

† See Trans. of King's and Queen's College of Physicians, vol. v. p. 249. Dublin, 1828.

‡ Medical Report, &c. p. 42.

forms an extreme that ought equally to be avoided. Where the fever is considerable, the pulse hard and full, and particularly where there is much general pain and tension over the belly, indicating an inflammatory diathesis, blood should be drawn copiously and with all possible speed, and repeated as long as the same symptoms may require; for here we have no time to lose; the inflammation may run rapidly into gangrene, and the patient sink from mortification or loss of blood in a day or two; perhaps in a few hours. There is nevertheless no disease that requires the exercise of a sounder judgment upon this point than dysentery; as the fever, if not typhous from the first, has a general tendency to pass into this type. [The statement of Dr. Renton, who has given a description of dysentery, as it appears in Madeira, corroborates the necessity of great caution; for, he says, that he was once in the habit of using the lancet freely and repeatedly, and of trusting to it and other antiphlogistic means; but, *every case*, so treated, terminated fatally.\*]

In his cathartic plan, Sydenham would have been considerably aided by the use of calomel; of all the purgative deobstruents the most valuable; and the more so, as exercising its evacuating power over all the secretions of the body. It has of late, indeed, been most extensively employed in quite a different way, and for a very different object; that, I mean, of curing by a specific action upon the immediate seat of inflammation; being persevered in for this purpose in doses of from five or ten to twenty or twenty-five grains, two or three times a day; assisted, where there is much torpor of the absorbents, by mercurial friction, and continued till ptyalism is produced, which, as in the case of yellow fever, is the alleged test that the constitution is sufficiently loaded with it, and that the disease is about to give way.

It is impossible to contemplate the conflicting opinions, which are given us respecting this mode of treatment by the monographic writers on tropical diseases, without astonishment: and the only mode of reconciling them is, to suppose, that the constitution is very differently affected by the use of mercury, under different circumstances; and that, while in some epidemics and sporadic cases it produces all that benefit which *à priori* we should expect generally, in others it entirely fails, or even proves mischievous. Dr. Jackson, Dr. Ballingall, and Mr. Bampfield feel justified in employing calomel merely as a purgative; while the second, though he regards it as of the highest importance in chronic dysentery, found even ptyalism itself unsuccessful in the acute form. Dr. Johnson esteems it of high importance as a purgative, but of the utmost moment as a sialagogue. He unites it occasionally with bleeding, with anodynes, with diaphoretics, or with all; but each of these is subsidiary to its powers, and may often be dispensed with.† Mr. Annesley unites it in the same

GEN. X.  
SPEC. I.  
Dysentery  
acuta.  
Medical  
treatment.

How far  
calomel,

and mercurial  
friction, so as  
to produce  
ptyalism,  
allowable.

Great conflict  
of opinion on  
this subject.

\* Edin. Med. Chir. Trans., vol. v. p. 381. In acute dysentery, a decidedly antiphlogistic plan is recommended by Dr. Elliotson: — "It may be necessary to bleed vigorously in the arm; to apply leeches freely and repeatedly to the abdomen; to give mercury, and get the mouth sore; to apply cataplasms of hot moist bran to the abdomen," &c. Lect. at Lond. Univ., as published in Med. Gaz. for 1833, p. 556. — Ed.

† Influence of Tropical Diseases, &c. p. 202.



GEN. X.  
SPEC. I.  
Dysentaria  
acuta.  
treatment.

manner, but takes every method in his power to prevent it from becoming a sialagogue. In any of the diseases for which he prescribes it, as fevers, dysentery, and liver-complaints, he gives it in scruple doses in each. "I never wished," says he, "to see the mouth in the least degree affected. Whenever this happened, I considered the salutary effects of calomel interrupted, because its use must be then discontinued; and it was my object to act upon the secretions of the intestines, to diminish muscular action in the intestinal canal, and not in the most remote degree to act upon the salivary glands.\* Mr. Cunningham, late surgeon to the Sceptre, in the East Indies, boldly employs it alone, and regards every thing else as impeding its course. He does not even stand in need of alvine aperients of any kind, and prefers scruple doses to smaller proportions, because it does not in this form so readily excite the alvine discharge, so as to be carried out of the system by stool: and, administered in this way, he fearlessly asserts, and the tables of his practice seem to justify his assertion, that "it is an almost certain remedy for dysentery, in hot climates at least." [Dr. Renton, of Madeira, after having given a trial to almost all the various modes, from copious blood-letting down to the oil of turpentine, feels himself justified in stating, after some years' experience, that, in the treatment of the dysentery of that island, "mercury, given boldly and perseveringly, until the mouth becomes decidedly affected, is the remedy chiefly entitled to confidence." † His plan is to give calomel every three or four hours, until the gums become sore.] And, finally, for it is not worth while to pursue the discrepancy further, Dr. L. Frank assures us, that, in his practice, the large doses of calomel, given so generally by the English surgeons in India, proved dangerous in the French army in Egypt; and that the plan most successful in his hands, was that laid down by Sydenham, which consisted, says he, in removing irritation by gentle aperients, the use of emollient injections, mucilaginous and diluent drinks, and diaphoretics, and laudanum.

Laudanum.

Sydenham employed laudanum as a cordial and diaphoretic, as well as a sedative; so as to take off that fearful depression of the animal spirits, by which dysentery is so peculiarly characterized, and to give a breathing moisture, and consequently a refreshing coolness, to the parched and burning skin, as well as to allay local irritation; his chief auxiliaries for the last purpose being diluents, tepid injections, and the warmth of the bed. Modern practice has greatly improved upon this plan, by combining some relaxant with the opium; and, in many instances, by premising an emetic, which, independently of its often exciting a perspiration, which nothing else can accomplish, has the additional benefit of emulging the meseraic or mesenteric vessels by the act of vomiting. The antimonial preparations form the best emetics for this purpose, whether the glass of antimony, at one time so powerfully recommended by Sir George Pringle ‡, tartarized antimony, or Dr. James's powder. Sir George Baker, Dr. Adair, and Dr. Saun-

Relaxants  
with opium.  
Emetics.

\* Practical Observations on the Effects of Calomel on the Mucous Surface, &c. Lond. 1825. 8vo.

† Renton, in Edin. Med. Chir. Trans., vol. ii. p. 377.

‡ Edin. Med. Essays, vol. v. art. xv.

ders, concurred in strongly recommending the emetic tartar as a diaphoretic or relaxant; the first alone, the second with calomel, and the third with opium; all which, nevertheless, have, in our own day, often yielded to Dover's powder, which is certainly entitled to a very high degree of praise. Much, however, of the benefit to be derived from Dover's powder, as a sudorific, depends upon its proper administration, and the care taken to promote its influence by a proper adjustment of clothing. Dr. Cullen advises, that the patient should, from the first, be wrapt in a flannel shirt and laid between the blankets alone, by a removal of the linen sheets, so that he may be surrounded by nothing but a woollen covering. Mr. Dewar's recommendation\* of a broad flannel swathe or cumberband bound round the abdomen, is, however, better entitled to practice, as it affords support as well as warmth: Sir James McGrigor found it very useful.†

Dr. Darwin amuses us with a singular mode of producing the same result, and one which, if continued long enough, might probably prove as powerful a revellent as any of those already noticed, but which we should not always recommend, nor find our patients disposed to carry into effect. "Two dysenteric patients," says he, "in the same ward of the Infirmary at Edinburgh, quarrelled, and whipped each other with horsewhips a long time, and were both much better after it." ‡

If the flux of blood, or any other morbid material, continue and be considerable, and especially if there be still an intermixture of sanious grume and shreds of membranes, evidently proving vascular disintegration and the approach of gangrene, astringents and tonics must enter into the plan of treatment. And, in this case, great benefit has been obtained from mineral acids, in union with sulphate of zinc, or with opium.

The former combination was a favourite medicine with Dr. Moseley, who, of the mineral acids, preferred alum, and varied the proportions according to the strength or age, the degree of costiveness or of hemorrhage, of the patient: sometimes giving two or three grains of each at a dose, to be repeated three or four times a day; where the hemorrhage is considerable, increasing the alum; and, where feculent evacuations were required, diminishing it, or even omitting it altogether. The preparation is valuable, as it unites a powerful metallic tonic, which is a true character of the sulphate of zinc, with an acid which has the singular virtue of proving astringent to the sanguineous and secretory system, while it produces little effect upon the peristaltic motion, and by some physiologists is thought rather to quicken it. Dr. Adair employed alum alone; but it is greatly improved by the addition of the sulphate of zinc. Dr. Jackson recommends either, or both conjointly; and both himself and Dr. Moseley employed injections at the same time, composed of a solution of acetate of lead, and apparently with great

GEN. X.  
SPEC. I.

Dysentery  
acuta.

Medical  
treatment.

Best mode of  
administering  
Dover's  
powder.

Flannel  
swathe.

Singular  
sudorific plan  
mentioned by  
Darwin.

Astringents  
and tonics.

Their virtue in  
combination.

\* Observations on Diarrhoea and Dysentery, as those Diseases appeared in the British Army in Egypt in 1807.

† Medico-Chir. Trans., vi. 433. Dr. Elliotson has not a favourable opinion of the emetic plan, neither has he ever been able to discover the soothing effects of ipecacuanha. He has not judged it necessary to give preparations of antimony. — *Ed.*

‡ Zoonom., cl. ii. i. 3.19.

GEN. X.  
SPEC. I.  
Dysentēria  
acuta.  
Medical  
treatment.

Mineral acids  
with laudanum.

Acidulous  
drinks.

Baillie's  
practice.

Diarrhœa from  
chronic de-  
bility, to be  
opposed by  
bitters and  
acids.

benefit. [Whether small doses of the sulphate of copper, joined with opium, would prove as useful in these cases, as they were found by Dr. Elliotson \* to be in chronic diarrhœa, future experience must determine: — they should not be given on an empty stomach, as they would be likely to produce vomiting; but after breakfast. The smallest dose is a quarter of a grain; the largest, three grains.]

A like beneficial effect, however, has been derived from uniting the mineral acids with laudanum. The sulphuric, though the pleasantest to the taste, is more apt to irritate the bowels, than the nitric. But the best mode of giving the latter, is, by combining it with muriatic acid in the proportion of two thirds of the former to one of the latter, imitating hereby the chrysulea of Van Helmont, or the aqua regia of later chemists, the nitro-muriatic acid of the present day, in doses of two drops of the nitric, one of the muriatic, and ten minims of laudanum, intermixed with infusion of roses or that of the more powerful astringents logwood, catechu, and gum kino. I have employed this medicine with peculiar advantage, not only in dysentery, but in many other loosenesses, and hemorrhages of the bowels, increasing the proportion of the acid or the laudanum as the urgency of the symptoms requires. †

When, however, the thirst is considerable, and acidulous drinks are called for, we may for this purpose use the sulphuric acid as the most grateful; though, in this case, the citric acid will usually be preferred, and the patient may be allowed to exercise his choice. Yet the one, or the other, of the above compounds should be continued, without any alteration in consequence of such a beverage.

Since the second edition of this work, the medical world has been favoured with the opinion and practice of Dr. Baillie, in a printed but unpublished volume of his writings. And if there be individuals who object to the practice of Sydenham on account of its defective energy, they will have infinitely more reason to accuse this eminent physician of timidity. He recommends bleeding, indeed, as what is *frequently* of service, but local alone and by leeches; as cathartics, “mild purgative medicines, of which,” says he, “I think castor oil upon the whole the best;” and opiates and astringents to be delayed till “natural fluid motions” have been obtained. ‡ Never was man more suspicious of the powers of medicine, or more entitled to the character of an expectant physician, than this eminent pathologist.

As the disease declines, there will often be found a very considerable degree of debility, and a chronic diarrhœa, with occasional discharges of blood, from the excoriated state of many of the minute blood-vessels of the mucous membrane of the intestines, or perhaps from a simple relaxation of the mouths of the capillaries. And in this situation, and especially where the disease has assumed a highly malignant character, many of the bitters of

\* See Med. Chir. Trans., vol. xiii. p. 451, &c.

† See likewise Th. Hope's Obs. on the powerful Effects of a Mixture of Nitrous Acid and Opium in curing Dysentery, Cholera, and Diarrhœa. Edin. Med. and Surgical Journ., No. lxxxviii. p. 35.

‡ Lectures and Observations on Medicine, 1825.



the *Materia Medica*, as the cinchona, columbo, simarouba, or extract of chamomile; and, perhaps, the *Nerium antidysentericum* of Linnaeus. may be resorted to, in connection with acids, with great advantage. They have, indeed, occasionally been given from the first; and, in a few very slight cases and very infirm constitutions, the practice may have succeeded; but as a general rule it is highly rash, and has rarely been tried without repentance.

In conjunction with this process, the very great tenderness of the interior of the larger intestines, from erosion or abrasion, will often, for a long time, demand peculiar local attention; and demulcent or bland oleaginous injections, as the infusion or oil of linseed, or olive oil with a little wax and soap dissolved in it, together with a grain or two of opium if there should be much pain (the whole not to exceed three or four ounces in quantity), will often be found of great assistance.

Opium alone in the form of a small pill or suppository, as recommended by many practitioners, will be generally found too harsh; and, where there is much tenesmus, it will be impossible to retain it. The only mode in which I have found it useful in this way is to rub it into an impalpable pulp with a little of the oil or butter of the cocoa-nut, and to mould it into small pastiles of a sufficient consistency to bear the touch.

In long-protracted and chronic cases, lime-water, drunk freely, has occasionally also proved useful. The coat of the intestinal canal is here, however, sometimes very considerably thickened and indurated. And in such cases, the best remedy we can have recourse to is mercury.

The liberal and experimental practice, pursued at the Dublin and various other hospitals in Ireland, during the late severe attacks of epidemic dysentery, and its general though often discrepant effects, may be appealed to in confirmation of the mode of treatment thus far laid down.

Such was the fatal ravage of the disease, that no one plan, hitherto devised, offered more than a very unsatisfactory success;—and hence almost every plan was tried in its turn.

From the treatment by mercury much was at first expected; and in many cases it seems to have been of use; but it “did not succeed,” says Dr. Cheyne, “so well as I expected. Calomel tried in every proportion and distance of time often failed with me and my colleagues.”\* And he adds shortly afterwards, “Mercury could not be depended upon, and did not relieve in numerous instances where the mouth was affected; and sometimes seemed to increase the disease.”† And even where the symptoms distinctly pointed out a morbid organisation of the liver, the result of this treatment was unsatisfactory. “Mercurial frictions,” says Dr. Cheyne, “were tried in all the forms over the region of the liver; but the advantages were not so extensively beneficial as I had reason to suppose, from finding that in every dissection the liver was in its structure more or less destroyed.”‡

Venesection and opium seem to have been more beneficial. “The lancet,” he further adds, “has repeatedly afforded great temporary relief where ulceration seemed to have taken place;

GEN. X.  
SPEC. I.

Dysentery  
acuta.

Have been  
employed  
from the first;  
but injudici-  
ously.

Bland injec-  
tions often  
requisite.

Opiate pastiles.

Lime-water in  
chronic cases.

Recent treat-  
ment in the  
Dublin and  
other hospitals  
of Ireland.

Mercury found  
not generally  
of advantage;

sometimes  
mischievous,

even where  
the liver was  
affected.

Advantages of  
general and  
local bleeding.

\* Report, &c. ut suprà, p. 41.

† Id., p. 89.

+ Id., p. 45.

GEN. X.  
SPEC. I.  
Dysentēria  
acuta.  
Blisters,  
aperients, and  
anodynes.  
Opium of chief  
benefit.

and the relief proved permanent from blisters, mild aperients, and anodynes. Where the lancet was not allowable, leeches were also highly useful.\* Free venesection we are told, in another place, often procured a large feculent stool, where even purgatives failed. In conjunction with a blister, it often removed even the alarming symptom of dyspnœa when timely applied.†

Dr. Cheyne's sheet-anchor seems to have been opium, and to this he shows as strong an attachment as Sydenham, who only preferred the liquid to the solid form of this medicine, as he expressly tells us, on account of its more easy sub-action. Dr. Cheyne, however, carried his practice here, as well as in bleeding, to a considerably larger range, at least in severe and alarming cases. "The mercurials," says he, "with opium sometimes seemed to answer: but in future I should chiefly depend upon opiates in doses of four or five grains, as this seemed chiefly to arrest the progress of inflammation, diminished agony, and sometimes proved of permanent benefit."‡

The old  
proceeding  
still further  
followed in  
slighter cases.

In less violent assaults, he at length fell back still more fully into the practice of former times. "In the middle stages," he tells us, "I preferred to the treatment by mercurials, *the old proceeding*; venesection, purgatives (chiefly the saline): bath in the evening; diaphoretic at night. This was frequently successful in an early stage." The blood, drawn on the first use of the lancet, was from thirty to forty ounces or more; which was repeated as often as necessary. With the saline purgative was often intermixed emetic tartar, to act on the stomach as well as on the bowels; and to these were added, in more violent cases, emollient injections, and, as already observed, blistering.

Castor oil, so highly prized by many writers, rarely acted kindly, and very frequently aggravated the tormina and tenesmus. It succeeded best when united with opium.

Terebinthinate  
clysters of use.

Generally speaking, injections did not answer so well as was expected. The most successful were the terebinthinate clysters — the Venice turpentine of Sydenham being merely exchanged for the oil of turpentine or the balsam of copaiba. The local action was hereby frequently changed and meliorated. And even the griping property of castor oil was softened, instead of augmented, by combining it with the rectified oil of turpentine.

Injections of  
nitrate of silver,  
and acetate of  
lead.

The other kinds of injections chiefly employed, were diluted solutions of nitrate of silver, and acetate of lead: the last united with opium. This combination was in high repute, on account of its decided success in various cases. Dr. Barker has since improved upon the principle, by giving to the joint materials the form of pills; under which modification it seems to have been still more effectual.

Astringents.

The ordinary astringents, in addition to the above, were, the chalk mixture, or infusion of catechu combined with laudanum.

Additional  
means.

In protracted cases, the medicines chiefly had recourse to, were Dover's powder, small doses of ipecacuan, and calomel. [The generality of army surgeons consider small doses of ipecacuan serviceable. The utility of this medicine and of small doses of

\* Report, &c. ut suprâ, p. 47.

† Id., p. 44.

‡ Id., p. 26.

hydrarg. cum cretà. has been noticed by Dr. Bright.\*] The treatment, where the disease ran into a chronic form, we shall notice presently.

[Dr. O'Beirne has related several cases in proof of the great efficacy of fomenting the abdomen with an infusion of tobacco, made by pouring two quarts of boiling water on two ounces of Virginian leaf-tobacco, and allowing it to stand for twenty minutes before use. Tobacco clysters, owing to the irritable state of the rectum, were not found to answer. Dr. O'Beirne usually lets the use of the fomentation be preceded by a mild purgative, like castor oil; and, indeed, he lays it down as a good general rule, that purgatives should be continued with the fomentation, until perfectly natural and feculent discharges be permanently established. The fomentations were sometimes repeated more than once in the day, and generally not discontinued, until some disturbance of the stomach and head had been experienced.†]

GEN. X.  
SPEC. I.  
Dysentaria  
acuta.

Tobacco  
fomentations.

## SPECIES II.

### DYSENTERIA CHRONICA.

#### CHRONIC DYSENTERY.

STOOLS FREQUENT, LOOSE AND FECAL: OFTEN WITH LARGE DEJECTIONS OF PURE OR GRUMOUS BLOOD, AND ESPECIALLY WHERE THERE IS SEVERE TENESMUS; MORBID PROGRESS SLOW, AND INSIDIOUS; MOSTLY WITH HECTIC FEVER.

THE genuine symptoms, noticed under the preceding species, are, for the most part, rapid and violent: and, when they have run through their course, if the constitution generally, or the alvine organs more particularly, be reduced to a state of extreme debility and relaxation, the disease, instead of yielding to a return of health, is extremely apt to pass into the present species of dysentery.

But it not unfrequently happens, that the causes of the disease are feeble and slow, though persevering, in their mode of action; or that the organs, on which they operate locally, are already in an infirm or undermined state, so as to possess scarcely energy enough to evince any vehemence of excitement; and, in either of such cases, chronic dysentery is produced without the intervention of acute, and becomes a primary malady.

The causes are chiefly a repeated exposure to a cold damp air, and especially in warm weather, by which the perspiration of the skin becomes frequently and suddenly suppressed; and an habitual irritation of the alvine canal, by a daily indulgence in highly stimulant food, and particularly spirits.

In this species, the inflammatory action spreads insidiously from one organ to another, till all the viscera, subservient to the digestive

GEN. X.  
SPEC. II.  
How distinguishable from the preceding species; though sometimes produced by it.

Sometimes a primary malady.

Causes.

Illustrated.

\* See Bright's Reports of Medical Cases, p. 176, &c. 410. Lond. 1827.

† Dr. O'Beirne, in Trans. of King's and Queen's College of Physicians, vol. iv. p. 386, &c.



GEN. X.  
SPEC. II.  
Dysentery  
chronica.

Symptoms  
varied by  
accidents.

Whence a gleet  
of the larger  
intestines.

Diarrhœa  
whence  
produced.

Bilious or  
hepatic flux.

Bloody flux.

Sometimes  
defined by  
duration.

In an advanced  
stage often  
fatal.

process, are implicated in a common chain of disease; and especially the liver, which is usually, indeed, in a state of great irritability and weakness from the first; as are also the mesenteric glands.

Hence, the symptoms must vary according to the progress of the disease, and the extent of the structural injury, from a simple relaxed state of the bowels, producing diarrhœa, uniformly accompanied with a greater or less degree of tenesmus, to a permanent ulceration, pouring forth purulent matter, or a more compound coluvies, sometimes watery like the washings of raw flesh, sometimes coagulated like dirty cream, and sometimes black and tenacious as pitch; and, in most cases, intolerably fetid.\* Occasionally, indeed, there is a dejection of sordid pus in considerable abundance, in consequence of the bursting of an abscess that has been long forming in the liver or some other organ, and has discharged its contents immediately or intermediately into the intestinal canal.† And we may hence see abundant cause for those colliquative sweats, dry, distressing cough, and other symptoms of hectic fever, which so frequently accompany this form of dysentery.

Chronic dysentery may, therefore, in its simplest and mildest state, be regarded as a GLEET of the larger intestines, produced, as urethral gleet is, by a morbid relaxation of the mucous glands of the part affected, and accompanied with that sort of irritation which is the usual cause of increased secretion in debilitated organs.

If the irritation be of any considerable extent over the intestinal canal, the peristaltic action is often permanently excited, and we have then an obstinate and weakening diarrhœa, pain at the pit of the stomach, with loss of appetite, and other dyspeptic symptoms.

If the same irritation ramify, whether by sympathy or continuous action, to the liver, we often find this organ also stimulated to a very considerable excess of secretion; when there is a frequent flow of bilious fluid from the rectum, sometimes nearly pure, but more generally depraved, and intermixed in its passage with other materials, constituting that variety of the disease which, by practitioners in the East, has been often denominated BILIOUS or HEPATIC FLUX.‡

Not unfrequently, however, the discharge from the rectum is pure or depraved blood, instead of bile; the relaxed and debilitated capillaries of the organs chiefly affected pouring forth this fluid in great abundance by anastomosis, or a gangrenous erosion of the tunics of larger vessels. This case is correctly denominated BLOODY FLUX.

In the late epidemic dysentery in Ireland, Dr. O'Brien included all those cases under the present species which ran on to a longer period than six weeks, and were accompanied with little or no fever. The most numerous sufferers were the aged and infirm, who had previously laboured under diseases of the liver, or some other abdominal organ.

From the extensive range of the morbid action, the impoverished state of the constitution, and, consequently, its difficulty of rallying, it is not often that a patient recovers from this form of the disease,

\* O'Brien on the Acute and Chronic Dysentery of Ireland, p. 58. Dublin, 1822.

† R. W. Bampffield on Tropical Dysentery, &c. p. 3. Lond. 8vo. 1819.

‡ Curtis on the Diseases of India.

when it has once passed from its mild or simple stage into a severer or more complicated course: and, on this account, Dr. L. Frank has asserted that it is essentially more fatal than the acute species.

GEN. X.  
SPEC. II.  
Dysentery  
chronica.

Post-obit  
dissections.

Post-obit dissections have given nearly the same appearances as we have already noticed; there is abrasion or ulceration of the mucous membrane of the intestines;—the colon is very generally found thickened and contracted through its whole extent, but particularly in its lower flexure. The smaller intestines are rarely traced in a state of ulceration; but patches of a deep-red colour are found in scattered plots, and especially on the ileum. The liver is not always affected in its structure, though more frequently than in the acute form: the gall-bladder is usually distended with deep-brown or dark-yellow bile, evincing a paresis or obstruction in the cystic duct.

The THERAPEUTIC INTENTIONS are here to change the nature of the morbid and irritable action; to diminish the exhausting discharges; and to give tone to the languid and impoverished frame.

Therapia.

For the first purpose, the most effectual medicine is calomel, either alone or intermixed with opium. "If, in treating of the acute form of flux," says Dr. Ballingall, "I have refrained from an indiscriminate, and, as I conceive, unmerited, commendation of this powerful medicine, it is only in hopes of being able to urge its employment with double force in the form of disease now under consideration; and to recommend an implicit reliance on it in the chronic form of flux; to ascribe to it an almost unlimited power in the disease; and to express an opinion that it will seldom disappoint our most sanguine hopes." Its effects in India, where torpidity and congestion are more frequent and more excessive than in cooler climates, seem to give a full sanction to this unqualified recommendation, and authorise its employment in large doses. In our own country, though very far from affording universal success, it is of pre-eminent importance; but, as it requires a long perseverance in its use, it will be found an error to load the system with it suddenly. In Ireland it was most beneficially employed in the form of the blue pill, combined with opium and a minute appendage of emetic tartar.\*

Calomel with  
opium.

Here, too, the terebinthinate preparations may frequently be had recourse to with some confidence; as may, also, for the same purpose of improving the local action, the essential oil of turpentine and the balsam of copaiva. As an aperient, oil of castor may generally be employed with less excitement of griping than in the acute form: but, whatever laxatives are had recourse to, they should always be of as mild a character as possible; and hence, rhubarb, in combination with small doses of calomel or Epsom salts, is often preferable to castor oil.

Terebinthinate  
preparations.

Oil of castor or  
other mild  
aperients.

Treatment.

By keeping the bowels free from irritation in this gentle manner, we indirectly check the morbid discharges of whatever kind by which the disease is so peculiarly distinguished. And, where more direct and powerful means are necessary, the compound chalk mixture with opium, various preparations of kino or catechu, or the

Astringents.

\* In the Peninsula mercury was found by Sir James M'Grigor to be injurious, except when the liver was diseased. See Med. Chir. Trans. — En.

GEN. X.  
SPEC. II.  
Dysentery  
chronica.

Diet.

When con-  
valescent,  
cordials and  
tonics.

Warm climates.

acetate of lead, in solution, or pills, or small doses of the sulphate of copper, joined with opium, may be tried.

The diet should be bland and nutritious, composed chiefly of milk, as recommended by Sir John Pringle, or of vegetable mucilages, as rice, arrow-root, sago and salep. And, as soon as the local irritation has manifestly subsided, a more cordial and tonic plan should be entered upon; animal food be allowed; the warmer bit- ters and metallic corroborants be prescribed, as cascarilla, columbo, sulphate of zinc; and such exercise and change of air as may best comport with the patient's constitution and station in life. Dr. O'Brien judiciously recommends him to try a warmer climate if his home be the British Isles, and a colder if he be a resident between the tropics. In all situations, he must be especially careful to avoid sudden changes of temperature, and particularly a cold damp atmosphere, and maintain a healthy excitement on the skin by flannel socks worn on the feet, and flannel swathing around the body.\*

## GENUS XI.

### BUCNEMIA.

#### TUMID-LEG.

TENSE, DIFFUSE, INFLAMMATORY SWELLING OF A LOWER EXTREMITY; USUALLY COMMENCING AT THE INGUINAL GLANDS, AND EXTENDING IN THE COURSE OF THE LYMPHATICS.

GEN. XI.  
Genus new to  
nosology,  
but necessary.

THIS genus is new to nosological classifications: but it is necessary, in order to include two diseases, which have hitherto been regarded by most writers as totally unconnected, and treated of very remotely from each other; but which, though occurring under very different circumstances, are marked by the same proximate cause, in most instances affect the same organs, and demand the same local treatment. They consist of the following species:—

1. BUCNEMIA SPARGANOSIS.
2. ————— TROPICA.

PUERPERAL TUMID-LEG.  
TUMID-LEG OF HOT CLIMATES.

\* If there be any tenderness about the abdomen, Dr. Elliotson recommends leeches to be put on the anus and front of the belly, for the alleviation of the tenesmus, which may then depend upon inflammation. When this symptom arises merely from irritation, he approves of an injection of forty or fifty drops of laudanum, mixed with not more than four ounces of a solution of starch, or with what Sir James M'Grigor found afford great relief in the Peninsula, a solution of the acetate of lead. Dr. Elliotson has not found it necessary to prescribe mercury in the kind of chronic dysentery met with in England; but he speaks favourably of the plan of applying straps of adhesive plaster round the trunk, and a flannel bandage over them. See Lect. at the Lond. Univ. as published in Med. Gaz. for 1833, p. 558. — Ed.



As the present genus is new, it has been necessary to distinguish it by a new name; and, on this account, the author has made choice of that of *Bucnemia*, from βου, a Greek augment, probably derived from the Hebrew בָּע or בָּעָה "to swell, augment, or tumefy," a particle common to the medical vocabulary; and the Greek noun κνήμη "crus," or "the leg," literally, therefore, "bulky or tumid leg."

GEN. XI.  
Origin of the generic term.

SPECIES I.

BUCNEMIA SPARGANOSIS.

PUERPERAL TUMID-LEG.

THE TUMID LIMB PALE, GLABROUS, EQUABLE, ELASTIC, ACUTELY TENDER; EXHIBITING TO THE TOUCH A FEELING OF NUMEROUS IRREGULAR PROMINENCES UNDER THE SKIN; FEVER, A IECTIC; OCCURRING CHIEFLY DURING THE SECOND OR THIRD WEEK FROM CHILDBIRTH.

THE tumid-leg of childbirth has mostly been contemplated as a very different affection from that of hot climates, and has rarely been treated of in connection with it. In the present author's first edition of his Nosology, the ordinary arrangement was so far adopted, that the two species were placed remotely from each other, though a distinction between elephantiasis and the tumid-leg was strongly enforced.

GEN. XI.  
SPEC. I.  
Natural connection of this species with the ensuing.

The tumid-leg of lying-in women has been described by different authors under a variety of names, as *phlegmasia dolens*, *phlegmasia lactea*, *oedymoma lymphatica*, and by Dr. Cullen as *anasarca serosa*; few of which express the real nature of the affection, and some of them a source obviously erroneous.

Synonyms.

By Dioscorides it was denominated sparganosis, from σπαργάζω, "to tumefy and distend;" *tumeo et distentus sum*, as rendered by Scapula; and, as the term is sufficiently expressive, it has been preferred on the present occasion. By most writers, till within the last twenty or thirty years, the swelling has been ascribed either to a suppression of the lochia, or a redundancy of milk, and a morbid deposition in consequence of such redundancy. Mauriceau regarded it as a metastasis of the lochia, and Puzos as a metastasis of the milk; whence the French practitioners call it, to the present day, *dépôt laiteux*, or *lait répandu*; and the Germans *milchstreichen*. A minuter attention to the subject, however, has sufficiently shown, that this complaint has seldom any connection with the milk, perhaps never. It has occurred where the breasts have been destitute of milk, and where they have overflowed; where suckling has been relinquished, and where it has been continued. It is not long since, that I was consulted by a young woman labouring under it who was suckling her infant, without any complaint of the breast whatever.

Derivation of the specific term.  
Causes misunderstood and doubtful.

It is as little influenced by the state of the lochia as by that of the milk. It attacks women of all ranks and of all habits, the healthy and the diseased, the lean and the corpulent, the sedent-

## GEN. XI.

## SPEC. I.

Bucnemia  
sparganosis.

Whether ever  
found in the  
upper limb.

So affirmed by  
Hosack and  
Francis, as also  
in males.

But the cases  
doubtful.

ary and the active, the young and the middle-aged. It also occurs in all seasons and situations, and has never perhaps been known to appear in any other part of the body than the lower extremities.

My esteemed friends Dr. Hosack and Dr. Francis, of New York, have, however, ingeniously contended that it has also been found in the upper\* as well as in the lower limbs, and in males as well as in females; and they especially appeal to one case communicated to them by Dr. Heermans of Ontario, which, could it be relied on, would go far to settle the question; but, as it appears to me that this, like various similar cases that have occurred to the present author, was an instance of erratic or metastatic rheumatism rather than sparganosis, we are not at present authorised to deviate from the ordinary character assigned to the disease, or to generalise it in the manner, which this more extended view of its occurrence would demand of us. Other local affections, indeed, make an approach to it, of which Dr. Denmark has described one that occurred in a male, which, however, he prudently avoids calling a phlegmasia dolens, contenting himself with saying that it resembled it; while Dr. Davis, as we shall have to observe presently, seems to have mistaken for this complaint an inflammation of one of the larger veins in the pelvis or its vicinity.

[The editor is happy in having here an opportunity to remark, that Dr. Davis only attempted to show the grounds he had for thinking that phlegmasia dolens was essentially connected with inflammation and obstruction of the iliac veins; and he has undoubtedly proved by dissection that, in some particular instances, corresponding, as he judged, though not as our author believed, to the latter disease, those veins were inflamed and obstructed. Whether such affection of the veins exists in all or most cases of phlegmasia dolens, can only be determined by further pathological investigations.† In the meanwhile it may be right to mention, that Dr. Davis's view has already received material support from three cases recorded by M. Velpeau, in all of which the sacro-iliac symphysis on the diseased side was more or less affected; accompanied with purulent effusions in the peritoneum, and about the genital organs; and a mixture of pus and coagulated blood in the veins of the limb, with evident traces of inflammation of their coats in two of the cases. It is true, that the alteration of the sacro-iliac symphysis is regarded by Velpeau as the occasion of all the other disorder, and so far he differs from Dr. Davis; yet the fact of the veins being inflamed and obstructed, in the examples alluded to, is certainly an important coincidence with what was noticed in the cases adduced by Dr. Davis.‡

Corroborations  
of Dr. Davis's  
view.

\* In Mr. Fraser's case, the left thigh and arm were considerably larger than the right. See Edin. Med. Journ., No. xc. p. 17. — Ed.

† In the case reported by Mr. Fraser, no traces of disease were found in the iliac vein; and he is inclined to regard phlegmasia dolens as a modification of diffuse inflammation of the cellular membrane, as described by Dr. Duncan. On the other hand, Dr. Lee proposes to substitute the term *crural phlebitis* for *phlegmasia dolens*; "as it has been demonstrated by the researches of recent pathologists, that the swelling of the affected limbs, and all the other local and constitutional symptoms of this affection, invariably depend on inflammation of the iliac and femoral veins." Cyclop. of Pract. Med., art. PHLEGMASIA DOLENS. — Ed.

‡ In January, 1823, several cases and dissections were published by Bouilland, in which the crural veins were found obliterated in women who had had a swelling

Neither does it appear to the editor that satisfactory proof has been given, that phlegmasia dolens is exclusively a disease of the female sex. He visited, in the military hospital at Cambray, in 1816, a soldier who was under the care of Dr. Booty, and was afflicted with a swelling of one of the lower extremities which that gentleman, an army practitioner of considerable merit, confessed that he knew not how to discriminate from phlegmasia dolens. Had the editor had no difficulty in joining the author in the supposition, that any eminent physician could have mistaken rheumatism for phlegmasia dolens, he should yet have had to overlook the foregoing facts, as well as the interesting case of inflammation of the iliac and femoral vein, related by Dr. C. Forbes.\* "The morbid appearances observed in this instance," he says, "were very similar to those which have been described by Dr. Davis. Had the subject of the disease been a woman in the puerperal state, would it not," he asks, "have been considered phlegmasia dolens?" This example, be it observed, is an additional corroboration of the statement respecting the condition of the veins. A peculiar swelling of the lower extremity coming on after fever, and corresponding very much in its character and progress to phlegmasia dolens, was lately described by Dr. Tweedie, who points out its differences from common œdema of the limb, and represents it as an inflammation of the cellular tissue.†

In about twelve or fourteen days after delivery, according to the common course of the disease, the patient complains of pain in the groin of one side, accompanied with the general train of pyretic symptoms, but without the precursive shivering. The part affected soon becomes swelled and distended, the swelling usually extending to the labia pudendi of the same side, and down

GEN. XI.  
SPEC. I.  
Bucœmia  
sparganosis.

Whether the  
disease be  
restricted to  
females.

Description.

of the lower extremity after delivery. Although these cases were printed four months before Dr. Davis's paper was read, "it does not admit of dispute," says Dr. Lee, "that Dr. Davis was the first who proved, by dissection, that phlegmasia dolens depended on inflammation of the iliac and femoral veins." (See *Cyclop. of Pract. Med.*, art. PHLEGMASIA DOLENS.) The numerous cases and dissections, of which Dr. Lee has since published the histories in the *Med. and Chir. Trans.*, and in a recent work on the "Pathology and Treatment of some of the most important Diseases of Women," offer a still more complete explanation of the subject; demonstrating that if inflammation be excited in the uterine branches of the hypogastric veins, it may spread from them to the iliac and femoral veins, and by the morbid changes induced in them, give rise to all the usual symptoms. — Ed.

\* *Med. Chir. Trans.*, vol. xiii. p. 296.

† *Edin. Med. Journ.*, No. xcvi. p. 258. In the spring of 1833, a case of chronic dysentery in a man came under the observation of Dr. Macann, in which phlegmasia dolens took place before death. On dissection, the common iliac, the external iliac, and femoral veins of the left side, were found to be completely obstructed, and their coats extensively disorganised by inflammation. The preparation is in the possession of Dr. Lee, to whom it was given by Dr. Forbes. In the male sex, the disease may commence either in the hemorrhoidal, vesical, or other branches of the internal iliac veins, in consequence of inflammation, or organic changes of structure in one or more of the pelvic viscera. It arises, however, much more frequently from inflammation, excited in the superficial veins of the leg, and extending upwards to the great venous trunks of the thigh and pelvis, as exemplified in several examples collected by Dr. R. Lee, from the practice of Sir Astley Cooper and others. Phlegmasia dolens seems, to the editor, then, not to be precisely synonymous with crural phlebitis, but an occasional effect of it. — Ed.



GEN. XI.  
SPEC. I.  
Buenemia  
sparganosis.

the inside of the thigh to the leg and foot; in a day or two, the limb is double its natural size, is hot, exquisitely tender, and moved with great difficulty. It has not, however, the ordinary external signs of inflammation, but is hard, smooth, glabrous, pale, and equable, except where the conglobate glands are situate, which are corded and knotty, as in the groin, the ham, and the back and fleshy part of the leg. There is, occasionally, an uneasiness in the loins and in the region of the pubes on the same side. The swelling has sometimes appeared as early as twenty-four hours after delivery, and sometimes not till five weeks afterwards. The accompanying fever, which is of a hectic form, usually declines about the fourteenth or twenty-first day, but in some cases runs on for six or eight weeks, and the patient becomes greatly emaciated. The first appearance of improvement takes place about the groin, where the disease commenced, the pain and tumour gradually subsiding in this quarter, and the amendment spreading in a continuous line. Sometimes, though rarely, both sides are affected simultaneously, and, in a few instances, the sound leg has exhibited something, though a less degree of the same complaint, as the diseased leg has improved. The improvement is very slow; and, in many cases, the affected limb continues weak and with morbid enlargement through life.

Proximate  
cause.

[Velpeau's opinion, that the origin of the disease is connected with an alteration of the sacro-iliac symphysis, has been already noticed.] Dr. Whyte, M. Caspar, and Mr. Trye, concur in deriving the disease from some affection of the lymphatics of the distended side. Dr. Whyte refers it to an extravasation from the lymphatic vessels ruptured by the pressure of the child's head: Professor Caspar, to a mixed inflammation of the absorbents, and cellular membrane\*; and Mr. Trye, to inflammation of the lymphatic glands. Dr. Ferriar ascribes it to inflammation of the side affected generally; and Dr. Hull to a joint inflammation of the museles, cellular membrane, and inferior surface of the cutis seated in the affected part, and an effusion of coagulable lymph, the large blood-vessels, nerves, lymphatic glands, and glands imbedded in them, at times, participating in the inflammatory action. The last, if not the real cause, would be sufficiently plausible if the inflammation be supposed to commence in the lymphatics, instead of being merely extended to them. As it is, Dr. Hull's hypothesis has been adopted and enlarged by Dr. Hosack, who regards the complaint as an inflammatory disease, "not merely affecting the limb, but the whole system," commencing, not in the groin or pelvis, but about the calf of the leg; not limited to the lymphatics or even to females, but common to both sexes, and to every part of the affected limb; sometimes appearing in both limbs at the same time; and where depletion is not actively employed, occasionally, like gout and rheumatism, transferred from one limb to another: produced, usually, by a suppression of the natural excretions, exposure to cold, stimulating drinks, and other means of excitement. To the disease thus described, Dr. Hosack has given the name of CRURITIS†; not quite classically formed;

Hill's hypothe-  
sis adopted by  
Hosack and  
considerably  
extended.

\* Comm. de Phlegmasia dolente. 8vo. Halle, 1819.

† Obs. on Cruritis, or Phlegmasia Dolens. 8vo. New York, 1822.

as partaking of two distinct tongues, and not quite applicable to an affection so variable as to seats, and so migratory even when it once shows itself. The disease is ably described, and followed up with the hand of a master, but it is not, as it appears to me, the disease before us, and belongs rather to our next genus.

Dr. Davis has probably thought the same; for he has entirely stripped the tumid-leg of the unrestrained licence of attack allowed it by Dr. Hosack, and of its migratory spirit afterwards: has restrained it to the female sex, and to the immediate neighbourhood of the pelvis. "The proximate cause," says he, "of the disease called phlegmasia dolens, is a violent inflammation of one or more of the principal veins within, and in the neighbourhood of the pelvis, producing an increased thickness of their coats, the formation of false membranes in their internal surface, a gradual coagulation of their contents; and occasionally a destructive suppuration of their whole texture: in consequence of which the diameters of the cavities of these important vessels become so gradually diminished, sometimes so totally obstructed, as to be rendered mechanically incompetent to carry forward into their corresponding trunks the venous blood, brought to them by their inferior contributing branches." \*

Here again we have a very accurate description of a disease by no means uncommon, which moreover is supported by a variety of cases, most of which have unfortunately a history of their dissections appended to them, containing a clear manifestation of the nature of this very fatal inflammation, and for the most part of the formation of a false membrane within the affected vessel. But if the present author have succeeded in truly delineating the disease before us, either in his specific definition or his diagnostic description, it must be obvious to every reader, who will compare them with the appearances laid down by Dr. Davis, that two different inflammations are referred to in the respective statements, the symptoms of which cannot possibly co-exist; that the very fatality of that described by Dr. Davis is of itself a sufficient proof of a clear and very striking distinction †: and that, though both occasionally take place soon after childbirth, the enlargement he has treated of is far less a phlegmasia dolens, than a particular variety of venous inflammation, the PHLEBITIS of several authors: for a striking example of which, proceeding from an obscure cause, and extending over the arm instead of over the leg, I may refer to Dr. Duncan's interesting case, in the Transactions of the Edinburgh Medico-Chirurgical Society. ‡ It gives us the same general swelling over the entire limb; rather phlegmonous than erythematous; but, to adopt the author's own simile, still more resembling an anasarcaous affection, yet without pitting. It gives, moreover, the

GEN. XI.

SPEC. I.

Bucnemia  
sparganosis.The disease  
accurately  
described, but  
not sparganosis.Hypothesis of  
Davis.Accurately  
described,but not  
sparganosis.

\* Med. Chir. Trans., vol. xii. part ii. p. 3.

† As Dr. Davis's main object was to record the appearances on dissection, the circumstance of his having brought forward only fatal cases must not be received as a proof of the general or common fatality of the disease. — Ed.

‡ Case of Inflammation of the Cephalic Vein which terminated fatally, vol. i. p. 439. The swelling, named by Dr. Good *bucnemia sparganosis*, and more commonly, by other writers, *phlegmasia dolens*, is to be regarded as an occasional effect of the obstruction and disorganisation of the femoral and iliac veins by phlebitis. On this ground, the editor cannot regard the proposed name of crural phlebitis, as a substitute for phlegmasia dolens, as correct. — Ed.

GEN. XI.  
SPEC. I.  
Bœchemia  
sparganosis.

same fatal result; and, on examination after death, develops the same thickening of the coats of the vein, and the same obstruction from morbid secretions. And to show still further how little foundation there is for this doctrine, we have in the very next article in the same volume, composed by the same indefatigable author, various cases of diffuse inflammation of the cellular membrane, without any affection of the neighbouring veins, so closely approaching the general character of the sparganosis before us, that he finds a difficulty in calling them by any other name, and appears greatly inclined to adopt Dr. Hull's hypothesis of the disease.\*

Hypothesis of  
Denman.

There is apparently as little reason for the hypothesis of Dr. Denman, who, while regarding it as an inflammation of the lymphatics, refers the inflammation to an absorption of some acrimonious matter secreted by the uterus; for the disease has occurred where there has been no more morbid action of the uterus than of the mammae; and all the secretions have proceeded healthily and in their proper quantity.

Curative plan.

The cure is to be attempted first by a free application of leeches all along the course of the limb, poppyhead fomentations, or, what is better, a swathe of flannel wrung out in hot water applied over the whole extent of the limb, surrounded by a loose bandage of sheeting.

Swathe of  
wetted flannel.

Purgatives.

Sedatives.

To this plan should be added purgatives of considerable activity, and, where the irritation is considerable, free doses of Dover's powder. General bleeding is rarely, though sometimes necessary. As soon as the inflammatory symptoms have a little subsided, local stimulants may be had recourse to, so as to excite the torpid absorbents to increased action: of which, the most useful in the author's hands has been the liniment of ammonia with laudanum.

Ammonia lini-  
ment with  
laudanum.

The laudanum, on a cursory view, may seem to add to the vascular torpor; but it tends to take off the pain and soreness that still remain, and thus enables the tranquillised vessels the more easily to recover their tone. Yet, whatever application of this kind is employed, it should be accompanied with gentle friction, continued for half an hour or more, if the limb is able to bear it; for the friction itself is of essential service, and tends, perhaps, even more than any other local stimulant, to restore the limb to a healthy action.

Gentle friction.

Mercury.

Mr. Trye advises, for the same purpose, the use of mercurial ointment; and others, that of small doses of calomel. But neither have proved decidedly useful; while, in some instances of great debility, they have evidently produced mischief. The chronic weakness is to be removed by a continuance of the friction, bathing with sea-water, or, which is much better, bathing in the sea itself, an elastic flannel bandage, horse exercise, pure air, and, if necessary, general tonics and astringents. [Dr. Lee has not seen any benefit produced by mercurial and iodine applications; and, at the commencement, he relies chiefly on the free abstraction of blood by leeches, applied above and below Poupart's ligament, in the direction of the femoral and iliac veins. In a case recorded by Dr. Sims, great relief was derived from puncturing the swelling in different places with a needle.†]

Chronic weak-  
ness how to be  
removed.

\* Trans. Medico-Chir. Soc. Edin. vol. i. p. 582.

† See Dr. R. Lee's art. PHLEGMASIA DOLENS, in Cyclop. of Pract. Med.



## SPECIES II.

## BUCNEMIA TROPICA.

## TUMID-LEG OF HOT CLIMATES.

THE TUMID LIMB HARD, LIVID, AND ENORMOUSLY MISSHAPEN; SKIN AT FIRST GLABROUS, AFTERWARDS THICK, SCALY, AND WARTY; SUCCESSIVELY BULGING AND INDENTED: OCCURRING CHIEFLY IN TROPICAL CLIMATES.

THIS species is intended to comprise that singular disease, known in the West Indies, and generally over Europe, by the name of *Barbadoes-leg*, from its being indigenous to the island of Barbadoes. Yet it is not in Barbadoes alone that it makes its appearance; for it is of high antiquity, as well as of very wide range, in hot, and especially in tropical climates; and constitutes the genuine DAL-FIL (داء النيل) or elephant-leg of the Arabians, being so denominated from its livid, tumefied, scaly, misshapen appearance. As the Arabic dal or daul fil (داء النيل) is literally elephantiasis or elephant-leg, and as the Greeks distinguished another and very different disease by the name of elephantiasis, the Greek translators of the Arabian writers were very generally betrayed, from the unity of the name, into a confusion of the two disorders, as we shall have occasion still further to observe when treating of proper ELEPHANTIASIS under the fourth order of the present class: and the confusion has, in a considerable degree, descended to our own times, insomuch that many writers of the present day continue to jumble the elephantiasis, or elephant-leg, of the Arabians, with the elephantiasis, or elephant-skin, of the Greeks, and to describe them as a common affection, though no two complaints can be more unlike: the former being a mere local malady, produced accidentally, and confined to the individual who labours under it; and the latter a constitutional disease, in every quarter hereditary, and in most quarters contagious.

The Arabians, however, had the disease called elephant-skin, the elephantiasis of the Greeks, by themselves called juzam (جزام) as well as the dal-fil or elephant-leg, the disease before us. And, as the malady called leprosy, and by the Arabians beras (برص), was supposed by many physicians, as well Arabian as Greek, to terminate frequently in juzam, or proper elephantiasis, the disease before us has occasionally also been confounded with leprosy as well as with elephant-skin, and all the three affections have been huddled together by many writers into one common disease. Even Dr. Schilling, a late practitioner of considerable merit at Surinam, has not escaped this last error; for he describes the tumid-leg under the name of leprosy; confuses its earliest symptoms and appearance with those of the leprosy of the Greeks, and especially with those of the lepra or *lepriasis candida*, and then distinguishes elephantiasis, the disorder he professes to be the immediate subject of his

GEN. XI.

SPEC. II.

Barbadoes-leg here intended.

Often confounded with elephantiasis: and whence.

Sometimes confounded with leprosy: and whence.

Illustrated.

GEN. XI.  
SPEC. II.  
Bucnemias  
tropica.

More correct  
view of Hillary  
and Hendy.

Error of Hendy  
in limiting the  
disease to  
Barbadoes.

Known in  
India as well  
as in Arabia.

Known in  
Polynesia.

Description.

pen, as a peculiar branch of leprosy, merely varied by its commencing in the feet, instead of in any other part of the body; and, carrying on the confusion, he next interprets the tumid-leg, or disease before us, as a mere variety of elephantiasis.\*

For a distinct and more correct account of this species, we must turn to the writings of Dr. Hillary† and Dr. Hendy, who have judiciously separated it from both the leprosy and the elephantiasis of the Greek writers, and treated of it as an individual malady: the former under the name of “Barbadoes-leg,” and the latter under that of the “Glandular disease of Barbadoes.” It is singular, however, that Dr. Hendy should have adopted the erroneous idea, that the disease before us is not only endemial to Barbadoes, but that it is to be found nowhere else; and that patients who migrate from this island for a cure, are almost sure to obtain one, unless in a chronic or inveterate stage of the disease, to whatever quarter they direct their course. It has been known immemorially in India, and is by the oriental writers, and even by Sir William Jones, justly distinguished from the *juzam*, which he tells us must not be confounded with the *dal-fil*, or swelled legs described by the Arabian physicians, and very common in that country. It is also indigenous to the Polynesian isles, where it takes the name of yava-skin, as being supposed to originate from drinking the heating beverage called yava; and, like the gout among ourselves, is regarded in a sort of honourable light.

The tropical bucnemia, like the puerperal, is occasioned by an effusion of coagulable lymph into the cellular membrane under the skin of the part affected, in consequence of inflammation of the lymphatics of the lower limb, and especially of the inguinal glands; the cause of which is at present quite unknown.

[The doctrine, that the disease essentially consists in an inflammation of the lymphatic vessels and glands, may be said now to be on the decline. In fact, we commonly see these organs inflamed, both in warm and cold climates, without any consequences resembling bucnemia tropica. Dr. Graves‡ notices various circumstances amounting very nearly to a complete refutation of the opinion. Thus, he particularly adverts to a passage in Dr. Hillary’s work, from which it appears, that the disease sometimes attacks the arm, scalp, ears, back part of the neck, the loins, &c. Enormous chronic growths of the integuments and cellular membrane sometimes affect the arm, penis, and scrotum, even in this country; the disease closely resembling the Barbadoes-leg, and examples of which had been seen by Mr. Chevalier§. It is obvious, as Dr. Graves has remarked, that, in such parts, the swelling could not have arisen merely from glandular inflammation; and as, from various facts which he has brought forward, it is proved, that inflammation of the skin and subjacent cellular tissue is in itself capable of producing a swelling, in all other respects similar to that of Barbadoes leg, he is inclined to think, that a more accurate investigation of the subject would have induced Dr. Good to modify the opinion he has delivered on the subject.

\* G. G. Schillingii de Leprâ Commentationes. 8vo. Lugd. Bat. 1776.

† Works, vol. i. p. 549. 4to. edit. 1799.

‡ Trans. of the King’s and Queen’s College of Physicians, vol. v. p. 65.

§ See Med. Chir. Trans., vol. ii. p. 71.

As far as the point can be decided by a reference to cases, very similar to the Barbadoes-leg, which have occasionally taken place in Great Britain or Ireland, the editor certainly joins Dr. Graves in the belief, that the disease does not arise from, or essentially consist in, disease of the lymphatic glands or vessels. In the highly interesting example of an extraordinary enlargement of the right lower extremity, recorded by Mr. Chevalier, and which occurred in an English woman in this metropolis, no change in the absorbent glands could be detected after death, either at the groin, or within the pelvis.\* In a very similar case, related by Dr. Graves, and which happened in a young man, twenty-five years of age, admitted into the Meath Hospital, "the swelling had commenced many years before his admission into the hospital, and had attained its enormous size gradually, and without the least pain, or inflammation of the skin, the subjacent adipose tissue, or *inguinal glands*." Dr. Graves has no doubt, that, as in Chevalier's case, the tumefaction arose from an extraordinary growth of the skin and subjacent adipose membrane, quite independently of inflammation.†

The diseases, described by Mr. Chevalier and Dr. Graves, seem to the editor to correspond to the enormous growth of the scrotum, so common in Egypt, and other warm countries, yet sometimes met with in France, this country, and other parts of Europe.‡ Dr. Graves is of opinion, that the example, which he has published, is entirely different both from phlegmasia dolens and the Barbadoes-leg, which affections, he says, arise from inflammation. It certainly appears, that some extraordinary enlargements of the lower extremity have depended upon a chronic growth and thickening of the integuments and cellular tissue, no inflammation having occurred, at all events, until the disease was far advanced. Yet, in other instances, a similar alteration of the skin and cellular membrane has been preceded either by an attack like that of phlegmasia dolens, as happened in Mr. Chevalier's example, or by fever, and heat and redness of the skin, as illustrated in one curious modification of the disease, described by Dr. Graves, and, as it seems, by no means uncommon in Ireland, where it affects the arms, perhaps more frequently than the legs.]

In the tumid-leg of hot climates, the skin, instead of maintaining the paleness of the first species, very soon becomes suffused with a deep red or purple hue; while the saburral fluid, that exudes from the cutaneous exhalents, concretes, as its finer parts fly off, into

GEN. XI.  
SPEC. II.  
Bucnemia  
tropica.

\* Op. cit., vol. ii. p. 67.

† Trans. of the King's and Queen's College of Physicians, vol. v. p. 56. A woman died in La Charité in 1820, with what Andral calls elephantiasis of one of her lower extremities, but which, probably, corresponded to the cases arranged by Dr. Good under the present title. The muscles were found, after death, reduced to a few pale, slender fasciculi; but the cellular substance was converted into an enormous mass, very hard, and including in some places cells filled with a serous fluid. At certain points it had all the physical qualities of cartilage. (Anat. Pathol., tom. i. p. 277.) The same author has also seen an extraordinary ossification of the layers of the intermuscular cellular tissue, in the leg of a subject that died with bucnemia. The muscles were in the state of atrophy. The osseous matter, which was deposited in the spaces between the layers of muscles, was blended, in the deeper part of the limb, with bony vegetations arising from the periosteum. Vol. cit., p. 297.

‡ See the Editor's Dict. of Practical Surgery, art. SCROTUM.



## GEN. XI.

## SPEC. II.

Bucnemia  
tropica.

Preceded by a  
febrile parox-  
ysm: subject  
to irregular  
returns.

rough and sordid scales, and the skin itself becomes enormously thickened and eoriaceous.

The effusion is usually preceded by a febrile paroxysm, induced by the glandular inflammation just noticed; and which, from the first, discovers a tendency to recur, though often at irregular periods, so as to resemble an erratic intermittent. Every fresh attack adds considerably to the effusion, and consequently to the morbid size of the limb, and exacerbates every symptom; and hence the greater severity of this species than of the former, and the monstrous disfigurement of the leg and foot by which it is distinguished. In many instances, also, the inflammation extends to the surrounding, as well as to the descending parts; and hence the scrotum, like the pubes in puerperal bucnemia, is often peculiarly affected and distended to an enormous magnitude; while, occasionally, the glands of the axilla participate with those of the groin, and the fore-arm becomes also enlarged. In a few instances, the disease is said to have commenced in the axilla; but such cases are very rare, and not well established.

Hence the dis-  
ease becomes  
chronic.

In this manner the disease at length assumes a chronic character: the monstrous size and bloated wrinkles of the leg are rendered permanent; the pain, felt acutely at first, subsides gradually, and the brawny skin is altogether insensible. Yet, even from the first, except during the recurrence of the febrile paroxysms, the patient's constitution and general functions are little disturbed: and he sometimes lives to an advanced age, incommoded only by carrying about such a troublesome load of leg; which, however, as we have noticed already, is regarded in the Polynesian isles as a badge of honour.

Rarely met  
with in Europe.

In our own country, the disease is rarely met with but in its confirmed and inveterate state, after repeated attacks of fever and effusion have completely altered the organisation of the integuments, and rendered the limb altogether incurable. In this state, the distended skin is hard, firm, and peculiarly thickened, and even liorny; while the muscles, tendons, ligaments, and bones, are, for the most part, little affected. [Most of the cases noticed in London are in Africans. The editor has seen one or two such examples in St. Bartholomew's Hospital. The most remarkable of these was published in one of the early volumes of the Medical and Physical Journal.]

Mode of  
treatment.

In this advanced stage, the disease seems to be altogether hopeless: nor in any stage has the practice hitherto pursued been productive of striking success. This has consisted chiefly in endeavours to alleviate the febrile paroxysms by laxatives and diaphoretics, and subsequently to strengthen the system by the bark. It would be better, perhaps, by active and repeated bleedings, as well general as local, and powerful purgatives, to endeavour to carry off the whole of the first effusion as quickly as possible; and then to direct our attention to a prevention of the paroxysms to which the constitution appears to be peculiarly subject, after a single one has taken place, by prohibiting exposure to the damp air of the evening, and by the use of tonics.

Case occurring  
in England  
singularly  
cured.

An original and chronic affection of this kind, in which the integuments of the legs were much thickened, the limbs swelled to such an extent as to prevent the patient from walking, and incrusted

with such a vast quantity of brawny scurf and scales, that handfuls of them might be taken out of his bed every morning, was successfully attacked many years ago by a mistake of one plant for another. The case is related by Dr. Pulteney; and the patient, who had been recommended to swallow a table-spoonful of the juice of the water-parsnep, with two spoonfuls of wine, every morning fasting, was erroneously supplied with half a pint of what afterwards appeared to be the juice of the roots of the hemlock-dropwort (*cenanthe crocata* Lin.): the first dose produced such a degree of vertigo, sickness, vomiting, cold sweats, and long continued rigor, that it almost proved fatal. So strong, however, was the patient's desire of relief, that, with the intermission of one day, he repeated the dose with a slight diminution in the quantity. The effects were still violent, though somewhat less alarming; and he persisted in using half the quantity for several weeks. At the end of a month, he was very greatly improved, and, shortly afterwards, the whole of his symptoms had nearly left him.\*

Amputation of the affected leg has sometimes been made trial of, but apparently without any success. Dr. Schilling informs us, that, in some, a locked jaw takes place about the seventh day from the operation, which is soon followed by tetanus, and ends in death; that, in others, fatal convulsions ensue immediately; and that those, who survive the operation, have wounds hereby produced that will not heal; while the disorder, still connected with constitutional causes, often seizes on the other foot.† And, in this last assertion, he is corroborated by one or two cases related by Dr. Hendy.‡

[In the modification of the disease, represented by Dr. Graves as common in Ireland, and as following fever and repeated attacks of a kind of inflammation, more like erysipelas than any thing else, he suggests the following treatment. When the case is not of very long standing, he recommends, during the febrile paroxysms, antiphlogistic treatment, purgatives, leeches repeatedly to the inflamed parts, and cold lotions. During the intermissions, rest, moderately tight bandages, bark, and, if it fails, arsenic. The moment the inflammatory paroxysms recur, the antiphlogistic plan is to be resumed.] §

GEN. XI.  
SPEC. II.  
Buenemia  
tropica.

Treatment.

Amputation of  
no use.

\* Phil. Trans., vol. lxii.

† G. G. Schillingii de Leprâ Commentationes. 8vo. Lugd. Batav. 1776.

‡ On the Glandular Disease of Barbadoes. 8vo. 1781.

§ Dr. Graves, in Trans. of the King's and Queen's College of Physicians, vol. v. p. 46.

## GENUS XII.

## ARTHROSIA.

## ARTICULAR INFLAMMATION.

INFLAMMATION MOSTLY CONFINED TO THE JOINTS ; SEVERELY PAINFUL ; OCCASIONALLY EXTENDING TO THE SURROUNDING MUSCLES.

GEN. XII.  
Origin of the  
generic term.

ARTHROSIA is a term derived from ἀρθρώω, "to articulate," whence arthrosis, arthritis, and many other medical derivations. The usual term for the present genus of diseases, among the Greek physicians, was *arthritis*, which would have been continued without any change, but that, for the sake of simplicity and regularity, the author has been anxious to restrain the termination *itis* to the different species of the genus EMPRESMA.

Loosely used  
by earlier  
writers.

Arthritis, then, among the Greeks, was used in a generic sense, so as to include articular inflammations generally. But as almost every sort of articular inflammation has, in recent times, been advanced to the rank of a distinct genus in itself, it has frequently become a question, to which of them the old generic term should be peculiarly restrained. And hence some writers have applied and limited it to gout ; others have made it embrace both gout and rheumatism ; others again have appropriated it to white-swelling : while a fourth class of writers, in order to avoid all obscurity and dispute, have banished the term altogether.

What species  
it should  
embrace :

connection of  
gout and  
rheumatism.

Now gout, rheumatism, whether acute or chronic, and white-swelling, however they may differ in various points, as well of symptoms as of treatment, have striking characters that seem naturally to unite them into one common group. Gout and rheumatism are so nearly allied in their more perfect forms, as to be distinguished with considerable difficulty ; and, in many instances, rather by the collateral circumstances of temperament, period of life, obvious or unobvious cause, antecedent affection or health of the digestive function, than from the actual symptoms themselves. Stoll maintains that they are only varieties\* of the same disease : Bergius, that they are convertible affections. White-swelling, in one of its varieties, is now uniformly regarded as a sequel of rheumatism, or the result of a rheumatic diathesis ; while the other varieties cannot be separated from the species.

White-swelling,  
how connected  
with the above.

Whether gout  
and rheumatism  
ever co-exist.

From the close connection between gout and rheumatism, Sauvages, and various other nosologists, distinguish some of the cases of disguised gout by the name of *rheumatic gout*. Mr. Hunter warmly opposed this compound appellation ; for his doctrine was, that no two distinct diseases, or even diseased diatheses, can co-exist in the same constitution. And, as a common law of nature, the observation is, I believe, strictly correct ; one of the

\* Rat. Med., part iii. p. 122—137. v. p. 420.



most frequent examples of which is the suspension of phthisis during the irritation of pregnancy. But it is a law subject to many exceptions; for we shall have occasion, as we proceed, to notice the co-existence of measles and small-pox; and I had, not long since, under my care, a lady in her forty-ninth year, of delicate health and gouty diathesis, who was labouring under a severe and decisive fit of gout in the foot, which was prodigiously tumefied and inflamed, and had been so for several days, brought on by a violent attack of lumbago\*, to which she was then a victim, and which rendered her nights more especially sleepless and highly painful. The constitutional disease had in this case been roused into action by the superadded irritation of the accidental disease; and the two were running their course conjointly. It is also a striking fact, that one of the severest illnesses that attacked Mr. Hunter's own person, and which ultimately proved to be disguised gout, *podagra larrata*, he suspected, in its onset, to be a rheumatic ailment. The case, as given by Sir Everard Home, in his Life of Mr. Hunter, is highly interesting and curious, as showing the singular forms which this morbid Proteus sometimes affects, and the various seats it occupies; as also, that a life of abstemiousness and activity is no certain security against its attack; for Mr. Hunter had, at this time, drunk no wine for four or five years, and allowed himself but little sleep at night.

Arthrosia, therefore, as a genus, may, I think, be fairly allowed to embrace the following species:

1. ARTHROSIA ACUTA.	ACUTE RHEUMATISM.
2. ————— CHRONICA.	CHRONIC RHEUMATISM.
3. ————— PODAGRA.	GOUT.
4. ————— HYDARTHROSIS.	WHITE SWELLING.

### SPECIES I.

## ARTHIROSIA ACUTA.

### ACUTE RHEUMATISM.

PAIN, INFLAMMATION, AND FULNESS USUALLY ABOUT THE LARGER JOINTS AND SURROUNDING MUSCLES; OFTEN WANDERING; URINE DEPOSITING A LATERITIOUS SEDIMENT; FEVER A CAUSA.

THE disease varies in respect to violence of the fever, and seat of the pain. The varieties, determined mostly from the last feature, are as follow:—

α Artuum.	Pain felt chiefly in the joints and
Articular rheumatism.	muscles of the extremities.

\* Lumbago is so common in gouty subjects, that the editor is inclined to believe it is as frequently met with in them as in rheumatic patients. He cannot, therefore, regard the above case as decidedly proving the co-existence of gout and rheumatism in the same individual.

GEN. XII.  
SPEC. I.  
Arthrosia  
acuta.

β Lumborum.  
Lumbago.  
γ Coxendicis.  
Sciatica.

δ Thoracis.  
Spurious pleurisy.

Pain felt chiefly in the loins; and mostly shooting upwards.

Pain felt chiefly in the hip-joint, producing emaciation of the nates on the side affected, or an elongation of the limb.

Pain felt chiefly in the muscles of the diaphragm, often producing pleurisy of the diaphragm.

A. acuta  
artuum.  
Remote cause.

Ages and  
constitutions  
chiefly predis-  
posed to  
rheumatism.

The common remote cause of ARTICULAR RHEUMATISM, as of all the other varieties, is cold or damp applied when the body is heated; though it may possibly be produced by any other cause of inflammatory fever, where the constitution has a peculiar tendency to a rheumatic action. This tendency or diathesis seems to exist chiefly in the strong, the young, and the active; for, though it may attack persons of every age and habit, these are principally its victims. We may hence, as well as from its symptoms, prove rheumatism to be an inflammatory disease. "Even in the weak and emaciated," observes Dr. Parr, "the pulse is hard, the blood coriaceous, and bleeding often indispensable." [Rheumatism is seldom met with in very young children, and, out of one hundred rheumatic patients, ninety are above the age of sixteen. The following is the result of what was noticed in relation to this point by M. Chomel, in La Charité. Out of seventy-three patients attacked by rheumatism, thirty-five were between the ages of fifteen and thirty; twenty-two between thirty and forty-five; seven between forty-five and sixty; seven were turned sixty; and only two were under fifteen.]

Daily experience proves, that both sexes are subject to rheumatism. If women more frequently escape from it, owing perhaps to their less robust constitutions, and their being generally less exposed to cold and damp than the other sex, they are still known to be particularly liable to it when, after being tenderly brought up, they are exposed to the exciting causes; and their tendency to be attacked by it is known to be increased by interruption of the menstrual discharge. Hence, also, women between the ages of forty and fifty frequently suffer from it. Rheumatism is not so prevalent in certain families as gout; in other terms, it is less hereditary. Yet, though the disease can hardly be called hereditary, an individual born of rheumatic parents will certainly be in greater risk of suffering from the complaint, than another person whose parents were quite healthy. According to a table kept by M. Chomel, out of seventy-two rheumatic patients, thirty-six had rheumatic parents, twenty-four had healthy parents, and twelve could furnish no information on the subject.] How far the observation of Sir C. Wintringham is true, that those who have suffered amputation are susceptible of this disease more than others\*, the author cannot say from his own practice; but it is the remark of a physician who was not accustomed to form a hasty judgment.

Amputation  
said to predis-  
pose to the  
disease.

\* Comment. de Morbis quibusdam. Art. 79.

[The generality of writers, down to the beginning of the present century, admit that the seat of rheumatism may be either in the muscles, or the fibrous tissues, so called by Bichat, consisting of the capsules of the joints, fibrous sheaths, the periosteum, and other fibrous membranes, the aponeuroses, tendons, and ligaments. This is the doctrine of Rivière, F. Hoffman, A. Leroy, and Pinel; to whom is to be added M. Chomel. Amongst those who believe, that rheumatism may be seated indifferently, either in the muscular system, or the fibrous, some conceive, that the disease never extends to the muscles but secondarily, and that it always first attacks the fibrous or ligamentous structures. Dr. Clutterbuck, in his lectures, even defines rheumatism to be an inflammation of the ligamentous structure connected with the different joints, and covering the muscles attached to them; which is in fact the theory of Bichat. Dr. Scudamore, who regards the tendinous portions of the muscles as the seat of rheumatism, believes, that, if the muscular fibres were inflamed, they would be affected with swelling, which is not the case, while an increase of volume is always observable in the fibrous structures attacked. In opposition to the hypothesis of Dr. C. Smyth, that the essential seat of rheumatism is in the muscles, Dr. Scudamore does not consider the permanent weakness of these organs, the diminution in their size, the imperfection of their action, and the pain following their contraction, as proofs of the inflammation having its seat in the muscular fibres; but only as the consequences of the impairment of the synovial and tendinous structures, and of the extension or disturbance of these textures in a state of inflammation, whenever the muscles are put in action.]

Acute rheumatism chiefly attacks the fibrous parts of the large joints of the shoulder, hip, knee, elbow, &c., and the muscular aponeuroses.\* This inflammation is not in reality attended with much swelling of the texture essentially affected, the density of which prevents any considerable effusion of lymph into its interstices. It is true, however, as Dr. Clutterbuck has remarked, that a good deal of swelling often attends acute rheumatism; but this is owing to the extension of the inflammation into the surrounding cellular texture.]

A few years ago, the proximate cause of rheumatism was imputed to inflammation of the arteries themselves of the muscles and tendons; in short, to an immediate *arteritis*. Some cases and dissections, in support of this doctrine, were brought forward in France by M. Barde†, and MM. Dalbanc and Vaidy‡; but the anomalous diseases to which they refer have not been generally received as examples of rheumatism.

In the case related by M. Barde, the heart, all the larger arteries, and even the venæ cavæ, gave evident proofs of inflammatory action. Their coats were thickened, hardened, of a dark red colour, in some parts covered with a whitish purulent matter, and in some the interior tunic was destroyed: the heart itself being considerably enlarged as well as inflamed.

\* The parts are generally hot and red, and frequently the pain is situated in the theca of the tendons: Dr. Elliotson has noticed red streaks in the direction of the latter parts. Lect. at Lond. Univ. as published in Med. Gaz. for 1833, p. 852. — Ed.

† Obs. communiquées à la Société de Méd.

‡ Dict. des Sciences Méd. Journ. Compl. vi. Août, 1819.

GEN. XII.  
SPEC. I.

α A. acuta  
artuum.

Textures in  
which it is  
seated.

Proximate  
cause.

Appearances  
on dissection in  
M. Barde's  
case.



## GEN. XII.

## SPEC. I.

α A. acuta  
articulorum.

[The foregoing hypothesis of arteritis being the proximate cause of acute rheumatism is sufficiently refuted by the consideration, that, if it were true, rheumatism would always accompany arterial inflammation, which is not the fact. If another argument were required to subvert the opinion, it might be readily found in the flying and very wandering nature of rheumatic pains, which pass, as Bichat\* expresses himself, with astonishing quickness from one situation to another. Broussais, in his *Leçons Pathologiques*, thus accounts for rheumatism: "When," says he, "the action of the skin is diminished, it is determined to another part; and here it is to the capsules or articular ligaments, the textures around the joints, that the irritation is determined." ]

In the general course of acute rheumatism, its peculiar inflammation does not continue long enough in any one organ to injure the structure of the arterial tunics; often, in effect, as in gout, we witness its disappearance in a moment, and find it migrating to some other part of the body.

Does not tend  
to suppuration?

As a general rule, it may be asserted, that rheumatic inflammation does not tend to suppuration. [It is one of the characters of the fibrous system hardly ever to suppurate. Bichat believed, that rheumatic inflammation never ended in the formation of an abscess, though coagulable lymph might be sometimes effused round the tendons affected.] In a few rare instances, the contrary has been known to take place†; and, in one or two cases, I have myself been a witness to an extensive abscess. But the general rule is not disturbed by such rare exceptions. The inflammation, therefore, is of a peculiar kind. There will often, indeed, be effusion, and the limb will swell considerably; but the effused fluid is gradually absorbed, and the swelling not unfrequently, though not always, is accompanied with an alleviation of the pain.

Description.

Sometimes the pains take the precedence of the fever; but, in other cases, the fever appears first, and the local affection does not discover itself till a few days afterwards.‡ There is no joint, except perhaps the extreme and minute joints of the fingers and toes, but is susceptible of its attack, although it usually commences in, and even confines itself to, the larger. Among these, however, it frequently wanders most capriciously, passing rapidly from the shoulders to the elbows, wrists, loins, hips, knees, or ankles, without observing any order, or enabling us in any way to prognosticate its course; always enlarging the part on which it alights, and rendering it peculiarly tender to the touch. The urine is often at first pale, but soon becomes high coloured, and deposits a red sediment. It may be distinguished from gout by being little connected with dyspepsy, commencing less suddenly, evincing more regularly marked exacerbations at night, but less clear remissions at any

\* Anat. Gén., tom. ii. p. 263.

† Morgagni, De Sed. et Caus. Morb., ep. LVII. art. 20. — Med. Comment. Edin., vol. iv. p. 198.

‡ Acute rheumatism presents a state of active fever, accompanied with inflammation of the fibrous tissues about the joints. One point not entirely decided is, whether the fever is the cause or the effect of the inflammation? Sydenham adopted the first of these views, which has found an able advocate in Dr. Barlow (*Cyclop. of Pract. Med.*, art. RHEUMATISM), who endeavours to prove (a fact generally acknowledged) that the state of the constitution is what principally claims regard in the treatment of acute rheumatism. — Ed.

time: to which we may add, its attachment to the larger, rather than the smaller joints; and its connection with exposure to cold and damp. It runs on from a fortnight to three weeks: and the average of the pulse is rarely under a hundred.

The fever is generally accompanied with copious and clammy sweats, [often of an exceedingly sour smell;] but the skin still feels tense and harsh; nor does the sweat issue freely from the immediate seat of pain. It seems to be an ineffectual effort of the remedial power of nature to carry off the complaint: for it is by this evacuation alone, that we can at length succeed in effecting a cure. But the perspiration will be always found unavailing, so long as it continues clammy, and the skin feels harsh, and there is a sense of chilliness creeping over the body, or any part of it, during the perspirable stage. The exacerbation, which regularly returns in the evening, increases during the night, at which time the pains become most severe; and are then chiefly disposed to shift from one joint to another. \*

[Acute rheumatism is not, generally speaking, attended with danger. Sometimes, however, it induces inflammation in parts of great importance to life; seemingly, in consequence of their partaking more or less of the ligamentous or fibrous tissue. The periosteum is a structure that is frequently attacked; and hence those aching pains in the bones, by which patients are severely tortured. The pericardium is another organ to which rheumatic inflammation is frequently directed: the case being indicated by great pain in the region of the heart, and great disorder in the action of this viscus. Sometimes the dura mater, another fibrous membrane, suffers; the patient being afflicted with severe head-ach and delirium, and often falling a victim to the disease. There is also no doubt, that the pleura and diaphragm are very liable to acute rheumatic inflammation; and surgeons, most experienced in diseases of the eye, recognise a species of rheumatic inflammation to which that organ is subject, and which has its seat in the sclerotic coat, whose fibrous texture is well known. Frequently it affects the loins, producing *lumbago*; the muscles at the back of the neck, the face, or any other part, where fibrous membranes, aponeuroses, ligaments, tendons, or perhaps muscles, are situated.]

Where fever is violent, and especially where the frame is robust, our only effectual remedies are copious bleeding and the use of diaphoretics; by the former, which will often demand repetition, we take off the inflammatory diathesis; and by the latter, we follow up the indication which nature herself seems to point out, and endeavour, by still further relaxing the extremities of the capillaries, to render that effectual, which, without such collateral assistance, is, as already observed, for the most part exerted in vain, and with an unprofitable expenditure of strength. The most useful diaphoretic is Dover's powder; and its benefit will often be increased,

GEN. XII.

SPEC. I.

a A. acuta  
artuum.

Nature of the  
accompanying  
sweats.

Other fibrous  
textures some-  
times affected.

Remedial  
process.

Copious  
bleeding,

and diapho-  
retics.

\* When the disease subsides, the parts do not desquamate and itch, as they do after gout; but they merely cease to be hot, swollen, and inflamed. (Dr. Elliotson's Lectures.) Rheumatism does not begin, like gout, particularly in the right time; and it arises from an evident exciting cause, exposure to cold, or cold and wet, which is not the usual occasion of gout. In the latter disease, you have not, in the early stage, the same tendency to profuse and often sour perspirations. — Ed.

## GEN. XII.

## SPEC. I.

α *A. acuta*  
*artuum.*

Aperients  
often little  
serviceable.

Opium alone  
seldom useful.

Venesection  
sometimes  
injudicious ;

and local  
bleeding not to  
be depended  
upon.

Rhododen-  
dron,

often useful ;

but not to be  
preferred to  
Dover's  
powder.

Free use of  
bark in  
debilitated  
habits ;  
often advised  
indiscrimin-  
ately.

if employed in union with the acetated ammonia, and sometimes if combined with camphor. Aperients are useful to a certain extent ; but they have not been found so serviceable as in various other inflammations. Small doses of calomel have occasionally, however, seemed to shorten the term of the disease, though they have not much influence in diminishing the pain. To obtain this, Dr. Hamilton has combined calomel with opium ; and, in his hands, it appears to have been successful. Opium alone is rather injurious ; nor has any decided benefit resulted from other narcotics, as hyoseyamus, hemlock, and aconite.

No constitution is invulnerable to the attack of rheumatism, although the young and the vigorous fall most frequently a prey to its torture. Hence not unfrequently we meet with it in persons of weak and irritable habits, who will not bear the lancet with that freedom, which gives any chance of its being useful. Local bleeding is here to be preferred, but it cannot be depended upon ; since, though the pain may diminish, or even totally subside, it is, in many cases, only to make its appearance in some other quarter.\* Here also, if in any case, we have reason to expect benefit from uniting stimulants with diaphoretics, as ammonia, camphor, and the resinous gums and balsams.

In such habits, and particularly if opium should disagree with the system, it may be worth while to try the rhododendron (*r. Chrysanthum* Linn.) This plant is a native of the snowy summits of the Alps and mountains of Siberia ; and in Russia, as we learn from Dr. Guthrie, is employed very generally both in gout and rheumatism with a full assurance of success, a cure seldom failing to be effected after three or four doses† : in consequence of which, it has formed an article in the *Materia Medica* of the Russian Pharmacopœia for nearly a century. Dr. Home tried it upon a pretty extensive scale in the Edinburgh Infirmary, and found, that it acts both as a powerful diaphoretic and narcotic ; and is at the same time one of the most effective sedatives in the vegetable kingdom. In most of the cases, it retarded the pulse very considerably, and, in one instance, reduced it to thirty-eight strokes in a minute. It has also the advantage of occasionally proving aperient. But it sometimes produces vertigo and nausea ; and, as a general medicine, is not to be preferred to Dover's powder‡, or even the antimonial powder with opium, where the latter can be borne without inconvenience.

It is possibly also in habits of this irritable kind, if in any, that we are to look for that extraordinary and decisive benefit from a free use of the bark at an early period of the disease, which we are told has been obtained. Contemplated as a highly acute inflammatory affection, nothing could at first sight appear to be more inconsistent with all rational practice than the use of such a medicine, and every one must feel predisposed to coincide with Dr.

\* Dr. Elliotson finds that free local bleeding generally answers better than venesection ; and, he observes, that, whether leeches or cupping be employed, great benefit will result from applying cold lotions as long as the temperature of the part is higher than it ought to be. See his Lectures at the Lond. Univ. as published in the *Med. Gaz.* for 1833, p. 853. — Ed.

† *Med. Comment.*, vol. v. p. 434.

‡ *Clinical Experiments, Histories of Dissections.* 8vo. Edin. 1780.



Cullen, when he tells us, in reference to acute rheumatism, "I hold the bark to be absolutely improper, and have found it to be manifestly hurtful, especially in its beginning, and in its truly inflammatory state." \* Yet, in direct opposition to such feelings and such assertion, we find the bark freely prescribed from the onset of acute rheumatism, apparently with success, by Dr. Morton, who seems first to have recommended it for this purpose, Sir Edward Hulse, Dr. Hugh Smith, Dr. Fothergill, Dr. George Fordyce, and Dr. Haygarth of Chester. † Dr. Fordyce affirms distinctly, that, at the time of writing, he had for fifteen years relinquished bleeding in favour of the bark; and that, during this period of time, he had not above two or three patients out of several hundreds for whom he had prescribed it; and had rarely met with any instance of a metastasis, a very common occurrence when he was in the habit of employing copious bleeding. ‡

I have also tried the bark in various instances from an early period of the disease, and when the bowels were free from confinement; but, I have rarely met with success, and have often, like Dr. Cullen, had reason to think it injurious. [When a trial of bark is judged proper, the sulphate of quinine is a convenient preparation, that should not be forgotten. Indeed, it has already been recommended by Dr. Whiting § and others.]

The above remarks will apply to the other varieties of acute rheumatism as well as to the first, that which affects the joints generally, and is the most common form under which the disease shows itself; yet the few following observations, more immediately directed to the other varieties, may not be altogether unprofitable.

LUMBAGO has sometimes been confounded with nephritis, or a calculus in the kidneys or ureters; but the proper nephritic affections are distinguished by some irregularity in the secretion of urine, and, as we have already had occasion to observe, with a numbness shooting down the thigh, and a retraction of either testicle.

\* Mat. Med., part ii. ch. ii. p. 100.

† Clinical Hist. of Diseases, 1805. On this point Dr. Elliotson has the following remarks.—"You will not find in Haygarth's work any authority for such practice. You will find in his book accounts of the successful treatment of rheumatism by bark; but then, it was not till he had evacuated the patient upwards and downwards, and employed the antiphlogistic plan. After that, it is said, that it prevented the disease from recurring. I have not had occasion to use bark, for I have found the disease give way to antiphlogistic means, colchicum, and mercury. The two best internal medicines are, without doubt, colchicum and mercury. Colchicum here, as in the case of gout, generally does no good till it purges; and when once it purges the patient thoroughly, the disease usually gives way. It should be given, as in gout, with magnesia. As soon as it purges, it is right to desist, and also as soon as its effect ceases. If you give a dose of one, two, or three minims of hydrocyanic acid with the colchicum, it sits better on the stomach." In obstinate cases, instead of going on with colchicum, Dr. Elliotson exhibits mercury, and makes the mouth tender. "If you do this in the first instance, instead of giving colchicum, the success is about the same. Colchicum may gripe, and mercury may make the mouth sore, so that you may not be able to continue them, and you may then leave off the one, whichever it may be, and exhibit the other; or, if you begin with one, and find it does no good, you may exhibit the other." — *Ed.*

‡ On Fever, dissert. iii.

§ See Lond. Med. Physical Journ., Feb. 1826.

GEN. XII.

SPEC. I.

a A. acuta  
artuum.

Diversity of  
opinions.

Result of the  
author's  
experience.

Local varieties  
of acute rheu-  
matism.

2 A. acuta  
lumborum.

GEN. XII.  
SPEC. I.  
γ A. acuta  
coxendiæis.

RHEUMATISM OF THE HIP-JOINT was called among the Latins *ischias*, from *ισχίος*, the Greek term for hip; which was afterwards corrupted into *isciatica* or *sciatica*; a word that has occasionally found its way into the dramatic poetry of our own country, as in Shakspeare's *Timon*,

— The cold *SCIATICA*  
Cripple our senators, that their limbs may halt  
As lamely as their manners.

This variety, at its onset, has sometimes been mistaken for a phlegmonous inflammation of the *psoas* muscle. But in the latter there is, from the first, less tenderness to the touch, but much more enlargement, and the pain shoots higher into the loins. In *sciatica*, indeed, the whole limb, instead of continuing to swell, soon wastes away, and the emaciation extends to the nates of the affected side, so that the muscles have neither strength nor substance; while the thigh seems elongated.

δ A. acuta  
thoracis.

When ACUTE RHEUMATISM attacks the PLEURA \*, or any of its duplicatures or appendages, it exhibits many of the symptoms of pleurisy or peripneumony. But here, also, as in every other case of rheumatism, we have much greater tenderness upon pressure than in phlogotic inflammation, while the pyretic symptoms are considerably less, and often highly disproportionate to the pain that is endured, so that the degree of pain and that of fever become no measure for each other.

Peculiar  
character  
belonging  
to the local  
varieties.

There is this peculiar character belonging to the three last varieties, that though they are less disposed to wander *generally* than the first, they are peculiarly apt to run into each other's proper field, and to affect the stomach, which, in consequence, becomes sometimes enormously flatulent and expanded, with a sense of heat like that of a burning coal. If the back or loins be pressed hard to obtain ease, the pain is transferred to the side or stomach; and if the pressure be followed up into the side, it returns with violence to the back or hips; or the breathing is impeded, and can only be carried on in an erect position. †

Local varieties  
of acute rheu-  
matism more  
disposed to  
chronic  
weakness.

Generally speaking, however, in these three varieties the disease is less erratic than in the first, and particularly in *lumbago* and *sciatica*. And it is owing to this fact that the loins and the hip, from having been more uniformly affected, are often so long, even after the complaint has subsided, before they recover any degree of tone, so that the patient is frequently a cripple for many months; and still suffers from chronic rheumatism.

Treatment  
of the local  
varieties.

Local applications, which are rarely of service in the first or articulate variety, as the pain is so apt to wander from every joint to every joint, may in all these be frequently employed with more advantage; and where general and copious bleeding may be contra-indicated, leeches or cupping have often afforded considerable relief. The compound camphor liniment, as an elegant rubefacient, is perhaps more frequently employed, than any other medicine of the same tribe; but it dries too soon upon the skin,

Rubefacients.

\* This case is most commonly believed not to affect the pleura at all, but merely the muscles or fibrous tissues of the parietes of the chest. — ED.

† Cartheuser, *Diss. de Lumbagine rheumatica*. Fr. 1755. — Scheid, *Diss. de Lumbag. rheumat.* Arg. 1704.

and heats and stimulates without exciting moisture; and hence it is less useful than camphor dissolved in oil, or oil united with ammonia. In all these applications, however, the friction with a warm hand is of itself highly serviceable, and should be long persevered in and frequently repeated. And on this account, essential advantage has often been derived in cases of lumbago, or where the rheumatism has fixed itself between the shoulders, from a waistcoat of the coarsest brown paper, worn close to the skin, which excites a gentle moisture, both by its perpetual friction and the stimulus of the tar with which it is so largely impregnated. [After the acute stage of lumbago, great benefit may often be derived from the Burgundy pitch plaster, or emplastrum picis comp. Dr. Clutterbuck has sometimes succeeded in relieving lumbago by half a grain of elaterium, followed by a grain or two of opium: it generally excites both vomiting and purging. Of course, one would only have recourse to such treatment in a case attended with great severity and obstinacy. \*]

Blisters seem rarely to be of all the advantage we should expect; but the vesication from sinapisms succeeds better than that from cantharides. The burning of inoxa is a favourite remedy on the Continent, but has been little tried in our own country, and is more suited for the chronic form of the disease. The tartar emetic ointment has been also frequently made use of, and sometimes with success: it gives a permanent irritation, but the exulceration it produces frequently prove foul and troublesome. Dr. Perceval of Dublin, in a manuscript note to the volume of Nosology, tells me that, in sciatica, he has known the pain removed by a sweating course of James's powder, after a considerable emaciation of the nates.

Bark and gentle stimulants, as guaiacum, bardana, and seneka, may be used with advantage, with a liberal regimen and chalybeate waters. Sulphureous fumigation has also of late been very extensively employed on the Continent, and partially in our own country, in the cure of both the present and ensuing species, and, according to the testimony of those who have employed it, with great success. M. Gales of Paris, who seems first to have tried it, affirms, that of sixty-five patients who were submitted to it, twenty-five were cured, thirty-two much relieved, while only eight received no benefit. Mr. Wallace, who has also tried it at Dublin, on a large scale, does not speak so decisively of its benefit in these complaints as in cutaneous eruptions.†

\* In severe lumbago, Dr. Elliotson has recourse to cupping on the loins, and gives a large dose of opium (three grains), which is followed by half a drachm of vinum colchici every eight hours. (See Clinical Lect., Lancet. 1830-31, p. 492.) I have always found an active purgative one of the best incipient measures, whatever may be the rest of the treatment. — ED.

† Obs. on Sulphureous Fumigation, as a Remedy in Rheumatism and Diseases of the Skin. Dublin, 1820.

GEN. XII.

SPEC. I.

Arthrosia  
acula.

Friction.

Treatment.

Elaterium.

Blisters rarely  
very service-  
able.

Moxa.

Tartar emetic  
ointment.

Tonics.

Sulphureous  
fumigation:

of Galés:

of Wallace.



## SPECIES II.

### ARTHROSIA CHRONICA.

#### CHRONIC RHEUMATISM.

PAIN, WEAKNESS, AND RIGIDITY OF THE LARGER JOINTS AND SURROUNDING MUSCLES; INCREASED BY MOTION; RELIEVED BY WARMTH; LIMBS SPONTANEOUSLY, OR EASILY GROWING COLD; FEVER AND SWELLING SLIGHT, OFTEN IMPERCEPTIBLE.

GEN. XII.  
SPEC. II.  
Difficulty of  
arranging the  
disease felt by  
Cullen.

Sometimes  
a sequel of  
acute rheu-  
matism.

Sometimes  
a distinct  
disease:  
and hence to  
be treated of  
separately.  
Varieties as  
in the acute  
species.  
Symptoms.

CONCERNING the proper position, and, in some sort, the nature of this disease, Dr. Cullen confesses himself at a great loss. In his Synopsis, he arranges it as a sequel of acute rheumatism, and so explains it in his definition: yet he gives it a distinct name, that of Arthrodynia, for the express purpose, as he tells us, of having a distinct name at hand for any one who may choose to regard it as a separate *genus*; and whoever is so disposed is at full liberty, he adds, as to any objection of his own. Yet, in his First Lines, he takes a different view, and, perhaps, a more correct one than either of the above. Chronic rheumatism, instead of being a mere *sequel* of acute rheumatism, or a distinct *genus*, is here made a separate *species* of a common genus. "Of this disease," says Dr. Cullen, "there are two species, the one named the acute, and the other the chronic, rheumatism." And, in his subsequent description of the latter, instead of the universal assertion in his earlier work, "*pro sequela rheumatismi acuti rheumatismum chronicum dictum semper habeo*," he modifies it by the word *commonly*. "The chronic," says he, "is *commonly* a sequel of the acute rheumatism."\*

There can be no doubt, indeed, that it is so; but as, in many instances, it is a distinct disease, characterised by symptoms of its own, and demanding a very different treatment, it ought certainly to be arranged as a distinct species.

Chronic rheumatism has as many, and nearly the same, varieties as the acute. It becomes fixed in the loins, in the hip, in the knee, but seldom in the thorax. Its symptoms are in most respects like those of acute rheumatism, only that there is little or no fever: so that, while the general heat is very considerable, and the pulse usually upwards of a hundred strokes in a minute in the acute species, the skin in the chronic species seldom exceeds its natural temperature, and the pulse is rarely quicker than eighty strokes; the joints are less swollen, and of a pale, instead of a reddish, hue, cold and stiff, and roused with difficulty to a perspiration, and always comforted by the application of warmth.†

\* Aph. ccccl.

† Occasionally the symptoms will be like those of acute rheumatism, only less violent. In general, however, the sweating does not continue; and the parts are not above their natural temperature, as they are in acute rheumatism. "It is sometimes rather difficult," says Dr. Elliotson, "to make an accurate diagnosis. If the disease has been acute rheumatism at first, you will find there has been sweating." Lectures in Lond. Univ., Med. Gaz. for 1833, p. 852.  
— Ed.

The disease continues for an indefinite period, and sometimes only terminates with life itself. The affected joint is occasionally debilitated in the utmost degree, so that, when the acute pain is not present, the weakness resembles that of a stroke of palsy.

Cold, the common cause of the acute rheumatism, is also a common cause of chronic, even where the acute species has not preceded: and violent strains and spasms may be enumerated as other causes. But, in these cases, the constitution must be peculiarly disposed to rheumatic action.

Every symptom proves most distinctly that the present is a disease of debility; and the mode of treatment must be founded upon this idea. Hence, stimulants of almost all kinds are found serviceable. Warm active balsams and resins, as those of copaiva, cubebæ\*, and guaiacum†, essential oils of all kinds, from resinous substances, as turpentine and amber; from aromatic or pungent plants, as camphor and mustard, and especially cajeput, the green distilled oil from the leaves of the *melaleuca leucodendron*, are all employed in their turn; sometimes alone, where they combine a sedative with a stimulant power, as camphor and cajeput, and sometimes in union with opium, which often proves a very valuable addition.

Most of these are, also, powerful diuretics; and, as acute rheumatism is best and soonest removed by warm sudorifics, so chronic rheumatism seems to be chiefly relieved, and, indeed, radically cured, by diuretics of a like stimulus. Hence, horse-radish and garlic are often found serviceable, and turpentine still more so, which, in truth, forms the basis of the greater number of the medicines just enumerated. How far the arum, or dulcamara, may be specifically entitled to this character I cannot determine from my own practice. They are both introduced into the table of diuretics by Dr. Cullen, and are highly commended by many physicians of great celebrity for their arthritic virtues. But it is possible that, whatever virtues of this kind they possess, are rather derived from their stimulating the excretories generally, and rousing the entire system, than from their acting specifically upon the kidneys. The *cochicum autumnale*, which has sometimes [the author might have said, very frequently] proved serviceable, has more decided pretensions to a diuretic character.‡

Local stimulants are, here, of more service than in the preceding species. The moxa has been more generally used on the Continent for chronic, than for acute, rheumatism, and is certainly more en-

GFX. XII.  
SPEC. II.  
Arthrosia  
chronica.

Cold the common exciting cause.

A disease of debility.

The treatment to be founded on this view.

Resinous and terbinimate preparations.

A one with opium.

Act usefully as diuretics.

Hence the advantage of horse-radish and the alliacea.

Arum.  
Dulcamara.

Meadow saffron.

Local stimulants of service.  
Burning of moxa.

\* See Dr. Cranc's Obs. in Edin. Med. Journ., No. lxxix. p. 305.

† One of the best stimulants in cases of chronic rheumatism is the ammoniated tincture of guaiacum. This is a medicine given in various doses, from thirty drops to a drachm, at a time; and Dr. Elliotson has known patients who took ʒvj. three or four times a day. Sometimes, says he, it purges, and sometimes it produces the nettle-rash; but, "when internal stimulants are necessary in rheumatism, I think this is one of the best." Lectures at Lond. Univ., &c. — Ed.

‡ Dr. Good, amongst the numerous medicines specified by him as having been recommended for chronic rheumatism, makes no mention of mercury. Whether the parts are hotter than they should be or not, Dr. Elliotson finds obstinate cases, especially such as are attended with exacerbation of the pain in the night, give way to mercury when they will not yield to any other medicine. All men of experience know how frequently pains in the bones, from syphilis, are supposed at first to be merely chronic rheumatism, and how quickly mercury sometimes relieves them. — Ed.

## GEN. XII.

## SPEC. II.

Arthrosia  
chronica.Stimulant  
cataplasms.Electricity and  
voltaism.Sulphureous  
fumigations.

Bath waters.

Arsenic  
solution.

Colchicum.

Chinese zin-  
king, needle-  
pricking :or acupunc-  
ture.

titled to a trial. It is peculiarly recommended by Larrey.\* In our own country, however, practitioners have far more generally had recourse to cataplasms of ammonia, cummin, and mustard seeds, occasionally intermixed with euphorbium or cantharides ; or, in their stead, have made use of friction, and, which is far preferable, the vapour-bath, brine, warm-bathing, and have afterwards kept the joint well-clothed with flannel, and sent through the organ small shocks of electricity, or roused it by the stimulus of the voltaic trough. Sulphureous fumigations, or the application of sulphur in a gaseous form, as first employed by Dr. Galés of Paris, are in common use on the Continent, and have occasionally been employed with success in our own country. And, when every thing else has failed, the patient is usually advised to try, what, perhaps, it would be better that he should try at first, the mysterious agency of the Bath waters.

The arsenic solution I have never tried in this complaint. It is strongly recommended by Dr. Bardsley †, and, in his hands, it seems often to have succeeded. It may be commenced in doses of ten drops, and gradually increased to double this quantity, and should be united with a few drops of laudanum if it sit uneasy on the stomach by itself. The colchicum wine and vinegar have certainly been employed with great and decided benefit, in chronic rheumatism, to which they are more adapted, than to the acute form of the disease. ‡

In many of the eastern parts of the world, and particularly in China and Japan, a mode of treatment for various acute muscular and nervous pains has been in immemorial use, under the name of zin-king, or needle-pricking, and consists in pushing from two to five or six finely-pointed gold or silver needles, at a small distance from each other, into the seat of pain, to the depth of from half an inch to an inch, or something more. This has of late been tried, under the name of acupuncture, in France, by M. Berlioz § and other practitioners, and, in our own country, by Mr. Churchill ||, for various affections of the above character, but particularly in severe chronic rheumatism, and, according to the accounts published, with

\* Recueil de Mémoires de Chirurgie, &c. 8vo. Paris, 1821.

† Medical Reports.

‡ Dr. Elliotson adds his testimony in support of the excellent effect of arsenic on chronic rheumatism. The stomach will bear it better, if hydrocyanic acid be given with it, or just before it. Dr. Good's first doses of the arsenical solution are greater than what practitioners usually venture upon. It is best to begin with two or three minims, and increase the quantity gradually : few patients can bear above seven or eight minims. Although there may be no danger in the œdema sometimes caused by this mineral, Dr. Elliotson regards the circumstance, when it occurs, as a sufficient reason for discontinuing it. Were any gastritic affection to be produced by arsenic, perseverance with the medicine would, of course, be dangerous. When the disease assumes an intermittent form, Dr. Elliotson gives either arsenic, or a large dose of bark, or quinine, either just before a paroxysm is expected, or afterwards, or smaller doses in the intervals. He also speaks very favourably of the effects of a narcotic, given in a full dose just before the pain is about to begin ; as, for instance, one grain of stramonium, repeated in two or three hours, if necessary, and the head remain unaffected. Were the medicine to excite drowsiness, giddiness, or delirium, an emetic would be proper.

— ED.

§ Mémoire sur les Maladies Chroniques, les Evacuations Sanguines, et l'Acupuncture. Paris, 1816.

|| A Treatise on Acupuncturation, &c. London, 1828.



considerable and almost instantaneous relief. The puncture produces little or no pain, and should be followed by no hemorrhage. A single puncture is often found sufficient to remove the ach, though it shoots occasionally to some neighbouring part; in which case, the same process is to be followed up to the seat of metastasis, when it is usually found to vanish altogether. The needle, when introduced, is suffered to remain in each puncture for about five minutes before it is withdrawn, and, in this part of the world, is commonly made of fine steel. [Dr. Elliotson has employed acupuncture very extensively: his experience confirms the observation of Mr. Churchill that it is chiefly useful in the rheumatism of fleshy parts, and in chronic cases. Like the same writer, he also finds one needle, left an hour or two in a part, more efficient than several applied but a few minutes. Of forty-two cases thus treated, thirty were cured: and the other twelve, being more or less acute, were not adapted for it, and yielded to antiphlogistic treatment.\* Some writers would attempt to explain the *modus operandi* of acupuncture on the principle of counter-irritation; but M. Pouillet has endeavoured to show by experiments that electromagnetic phenomena take place in the operation.†]

GEN. XII.  
SPEC. II.  
Arthrosia  
chronica.

When the disease is limited to the extremities, whether of the arms or legs, flannel bandages have often been found highly serviceable; and they should be applied with as much tightness as the patient can bear without inconvenience.‡

### SPECIES III.

## ARTHROSIA PODAGRA.

### GOUT.

PAIS, INFLAMMATION, AND FULNESS, CHIEFLY ABOUT THE SMALLER JOINTS; RETURNING AFTER INTERVALS, OFTEN PRECEDED BY, OR ALTERNATING WITH UNUSUAL AFFECTIONS OF THE STOMACH, OR OTHER INTERNAL PARTS; UNSUPPURATIVE

THE origin of the term *gout*, or *goutte* in French, is little known, or rather is almost forgotten. Among the ancients, most diseases accompanied with tumefaction, were ascribed to a flow of some morbid fluid or humour to the part affected, which was called a rheum or defluxion; and the rheum or defluxion was denominated cold, hot, acrid, saline, or viscid, according to the nature of the symptoms. The Arabian writers ascribed even this cause to various diseases of the eyes, which were hence called *gutta serena*, and *gutta obscura*, "clear or cloudy drops or defluxions," according to the external appearance. Rheumatism and gout were alike attributed to the same origin: and, as the terms *rheuma* and *gutta* were

GEN. XII.  
SPEC. III.  
Origin of the  
vernacular  
term.

\* See Med. Chir. Trans., vol. xiii. p. 467.

† See Journ. de Physiologie Expér., par F. Magendie; tom. v. art. i.

‡ Trans. of King's and Queen's College, Dublin. Dr. Gratton, vol. i. p. 169. 1817.

GEN. XII.  
SPEC. III.  
Arthrosia  
podagra.

used in medicine synonymously, both importing defluxion, the old opinion is still verbally preserved, and has descended to us in the names of rheumatism and gout, though the old pathology has been abandoned. "We have still," says Dr. Parr, "the treatise of Carpinati, published at Padua in 1609, *De GUTTA, seu Junctuarum dolore*; but the term may be traced to Valescus de Tarenta, who wrote his Commentary early in the fifteenth century; and Schneider, in his *Liber Catarrhorum Specialissimus*, published at Wittenburg in 1664, usually denominated the sixth volume, and peculiarly scarce, describes the gout as a catarrh."\* [The term, however, is still more ancient, and was used by Radulphus, a Dominican of the thirteenth century, who writes, "*cum guttâ, quam podagram, vel arthriticam vocant, frequenter vexareter.*"]

Distinctive  
marks of gout  
and rheuma-  
tism.

The resemblance between gout and rheumatism is so close, that the one is often mistaken for the other; and both by Bergius were regarded as convertible: yet, while the former chiefly fixes on the small joints, the latter attacks the large; and the first is often hereditary, while the second is rarely or never so. Gout is far more connected with a dyspeptic state of the stomach than rheumatism: its incursions are, for the most part, more sudden, its nocturnal exacerbations less striking, but its remissions much clearer. While rheumatism mostly begins in the shoulders or elbow, gout always begins in the foot or ankle.

Diversity of  
opinions in  
theory and  
practice.

Gout, moreover, is a far more complicated complaint than rheumatism; and hence there is no disease to which the human frame is subject, that has led to such a variety of opinions, both in theory and practice, many of them directly contradictory to each other, as the gout; and I may add, there is no disease, concerning the nature and treatment of which physicians are so little agreed; so that, to this moment, it constitutes perhaps the widest field for empiricism, and the hottest for warfare, of any that lie within the domain of medical science.

Hence opening  
a wide field for  
empiricism.

General history  
of the disease  
our best guide  
to a correct  
pathology.

Shutting the door to disputation and unfounded theory as far as we are able, let us, in as few words as possible, attend to the clear and established history of this disease, as we would to that of any other, and draw our pathology and our mode of practice from the principles which it will be fairly found to inculcate.

Gout a disease  
of the system:

In the first place, it is admitted on all hands, or at least with exceptions so few as scarcely to disturb the general consent, that gout, in whatever way it shows itself, is a disease of the system; or, in other words, is dependent upon a peculiar diathesis or state of the constitution. And, next, it is as commonly admitted, that this diathesis is, in some instances, original, and in others hereditary or derived. There are many persons in whom this complaint makes its appearance, who can trace no such affection in their ancestors†; and as such persons are specially distinguished by a habit of indolence, luxury, and indulgence, and particularly in the pleasures of

sometimes  
original; at  
other times  
derived.

Nature of the  
constitution  
where the  
disease is  
original.

\* Med. Dict. App.

† From some tables published by Sir Charles Scudamore, it appears that in a given number of gouty individuals, the majority acknowledged no hereditary claim to the disease. Yet we are not to imagine, from the result of this estimate, that, in a large proportion of cases, the predisposition is not received by children from their parents: the fact is familiarly known and universally acknowledged.—ED.

the table, it is from this habit that the gouty diathesis is supposed to originate. There are others who, though exhibiting a life of great regularity and abstemiousness, afford proofs of the same diathesis in occasional paroxysms to which it gives rise; and such persons are almost always capable of tracing it hereditarily. For the diathesis, having once established itself, keeps its hold on the system, and is propagated from race to race, whatever be the manner of life of the individual, or the general state of his constitution; though there can be no question, that those descendants are most subject to its paroxysms who indulge in the excesses that laid its first foundation.

A gouty diathesis, thus produced, may remain quiescent and not discover itself for years, till it meets with some occasional cause of excitement, when it shows itself by a sudden and painful disturbance of some part of the system\*; but a disturbance of a very different kind, as well as affecting very different organs, according to the temperament, constitution, manner of life, or some incidental circumstance of the individual: where the general health is sound, fixing on one or more of the extremities, in the form of a peculiar but very acute inflammation, that runs through a regular paroxysm and gradually subsides; and, where the health is infirm, and the general form debilitated, exciting great derangement in some internal organ or set of organs, and particularly those of digestion; or shifting from one form to another, and thus proving itself, under every form, to be the same disease, and laying a foundation for the three following varieties:—

α Regularis.

Regular fit of gout.

Pain, swelling, and inflammation of the affected joint considerable and acute; continuing for several days, often with remissions and exacerbations; then gradually resolving, and leaving the constitution in its usual or improved health.

β Larvata.

Disguised; lurking atonic gout.

Disguised and lurking in the constitution, and producing derangement in the digestive or other functions, with only slight or fugitive affection of the joints.

γ Complicata.

Retrograde; recedent; misplaced gout.

The disease fixing on some internal organ instead of on the joints; or suddenly transferred from the joints after

GEN. XII.  
SPEC. III.

Arthrosia  
podagra.

Constitution  
frequently  
different when  
derived.

Durability of  
the diathesis  
when once  
established.

Diathesis may  
remain quies-  
cent for years,  
or through  
life: unless  
excited by  
some occasional  
cause: when it  
shows itself  
differently  
in different  
organs.

\* "A state of plethora, absolute or relative," as Dr. Barlow observes, "precedes every accession of gout, and is the principal, if not the immediate, cause of it. The intensity and duration of the paroxysm, too, are dependent on the degree of plethora prevailing, although other circumstances may contribute to prolong the attack. But, notwithstanding this, gout is not simply plethora, leading to, or ending in, local inflammation. There is something more from which gout derives its distinctive character, and this ideal, at least unexplained existence it is, which constitutes the essence of gout." *Cyclop. of Pract. Med.*, art. GOUT. — ED.



GEN. XII.  
SPEC. III.  
Arthrosia  
podagra.

having fixed there; producing in the internal organ affected, debility or inflammation, according to the state of the constitution.

The predisposing cause of a gouty diathesis, when it first forms itself in an individual, is plethora, or the state of the system produced by full living and indolence.

An entonic state of the vessels, joined with plethora, may be set down as the predisposing cause to acquired gout; and this hypothesis seems consistent with the fact of the common occurrence of gout in strong robust individuals. When it has been transmitted hereditarily, it is more disposed to show itself in men of robust and large bodies, of large heads, of full and corpulent, and especially gluttonous habits, or whose skin exhibits a coarser surface, in consequence of being covered with a thicker rete mucosum.

Predisposing  
causes of gout.

[The middle and advanced periods of life are more disposed to gout than the early periods. Thus, it does not commonly attack men until after the age of thirty-five, and generally not till a still later period.\* When the gout does appear in more early life, it seems to be in individuals in whom the hereditary disposition is exemplified, and to whom the exciting causes have been strongly applied. According to Hippocrates, eunuchs are not liable to gout, nor boys previously to venery; but these opinions are probably not very correct; since, with respect to the latter, the disease is well known to be almost peculiar to an advanced period of life; and the eunuchs, who, in the time of Hippocrates, were chiefly Persian slaves, were, in all likelihood, confined to the strict discipline and the frugal and temperate lives enjoined to all, and therefore not exposed to the most active causes of gout. For Galen, in his Commentary upon this observation of Hippocrates, tells us, that, in his time, the remark was no longer true, "owing to too much indulgence on their part in an indolent, as well as intemperate mode of life:" and the remark is confirmed by modern experience. There is a Greek epigram, literally signifying, "Of limb-relaxing Bacchus, and limb-relaxing Venus, is born a daughter, the limb-relaxing Gout." And a similar doctrine is contained in the adage, "Bacchus pater, Venus mater, et Ira obstetrix Arthritidis." While, says Dr. Bateman, this fact is confirmed, on the one hand, by the testimony of ages, in the affirmative, it is corroborated also, on the other hand, by observation, in the negative. Dr. Cullen remarks, that gout seldom attacks those who are employed in bodily labour, or who live much upon vegetable aliment, or take no wine, or fermented liquors. Indeed, the gout is said to be altogether unknown where these liquors are not used, as among the common people of Turkey. According to Van Swieten, some people, who, after being in comfortable circumstances, have been reduced to labour for their sustenance, and to exchange a luxurious table and indolence for a spare diet and activity, have never suffered from gout again. He mentions particularly the instance of a certain priest, who enjoyed

\* When the predisposition is strong, however, it may commence much earlier. The editor has seen several instances of it in persons not more than twenty years of age. — ED.

a rich living, and had been an old and constant sufferer from gout, but, happening to be taken by the pirates of Barbary, he was kept constantly at work in the galleys for two years; "which had this good effect, that afterwards, when he was ransomed from captivity, having lost all his troublesome and monstrous fatness, he never once had a fit, though he lived several years after the event." Various similar examples are related by Schenckius.\* In a word, as Dr. Bateman remarks, much exercise, which will often counteract the influence of intemperance, will, when combined with temperance, counteract even the hereditary disposition to the disease.

Women are not very liable to gout, probably from their more regular and abstemious mode of living; but those females whom it attacks are generally of robust and full habits. It is said to be very rare before the cessation of menstruation, which, as Dr. Bateman thinks, only implies, that it is generally a disease of advanced life. For Dr. Cullen† has observed, that robust females are often attacked before the menses have ceased; and he knew of cases where it occurred in females whose courses were more abundant than usual.‡]

The podagric diathesis must be distinguished from the paroxysms to which it gives rise, and which constitute the only manifest indications of its existence.

The paroxysms of gout are excited by certain occasional causes, some of which are obvious, and some doubtful, or altogether unknown; but, without the co operation of these, the gouty diathesis may remain unnoticed or quiescent in the body for years, or perhaps, through the whole term of a man's life. And hence, we often see an individual, whose ancestors have been notorious for this complaint, pass the whole of his days without betraying any marks of it, while it appears in one or more of his children, perhaps in their very boyhood.

The occasional causes are numerous; for, where the diathesis exists strongly, almost any thing that is capable of producing a general disturbance in the system, or of throwing it off the balance of ordinary health, is sufficient to become a cause; and this, whether the incitement be of an entonic or an atonic character. And hence, paroxysms in different individuals are often produced by intoxication, or excess of eating; violent emotions of the mind, particularly the depressing passions, as grief and terror; sudden exposure to cold when the skin is in a state of perspiration: wet applied to the feet; great labour of the body; severe application of the mind, especially when protracted, so as to break in upon a due allowance of sleep: cold, flatulent fruits, and often acidulous liquors; a sudden change from a spare to a full, or from a full to a spare, diet; excessive evacuations of any kind; and, occasionally, a sudden cessation of such as are habitual.§

GEN. XII.  
SPEC. III.  
Arthrosia  
podagra.

Diathesis must  
be distin-  
guished from  
paroxysms.  
Paroxysms,  
how excited.

Occasional  
causes, what.

\* Obs. Med. Rarior., lib. v. p. 659. ed. 1644.

† First Lines, &c. § 494.

‡ Bateman, in Rees's Cyclopædia, art. Gout. For this relative immunity of females from gout, they seem indebted to their greater temperance, and also to the facilities which the female constitution possesses of throwing off redundancies by natural outlets. Dr. Gregory observed in his practice, that such women as suffered from gout, had antecedently been subject to profuse hemorrhages, and were generally plethoric through indolence and high feeding. — En.

§ The doctrine that lowering the diet, or that a change from a full to a spare

## GEN. XII.

## SEC. III.

Arthrosia  
podagra.

Violent and  
protracted  
paroxysms  
confirm the  
diathesis, and  
quicken the  
return of fits.

Whether  
particular  
climates more  
than others  
disposed to  
produce gout.

The more violent the attack of a paroxysm, and the longer its continuance, the more the diathesis is confirmed, and the oftener the attack is renewed. On which account, it is of great importance to alleviate and abridge the paroxysms as much as possible, and especially when they are as yet new to the system.

Whether particular climates or countries are more disposed to favour the existence of gout than others, separate from the occasional causes just adverted to, may be doubted. \* Such an opinion, however, has prevailed among the vulgar, as well as among many of the more learned in most ages. Thus, among the Greeks, it was a popular belief, that Attica was the hot-bed of gout, as Achaia was of ophthalmia; whence Lucretius,

Atthide tentantur gressus, oculique in Achæis finibus.†

Gout clogs the feet in Attica, the sight

Fails in Achaia.

And thus, too, in more recent times, we are told that China ‡, and even some of the German provinces, are exempt from the attack of gout, while, in our own country, it exercises an almost irresistible sway. The last assertion is true enough; but, we are not driven to the variable nature of our climate to account for the fact.

Proximate  
cause variously  
accounted for.

Thus far we can proceed safely, respecting the general pathology of this Proteus-disease. But the moment we enter upon the field of its PROXIMATE CAUSE, we are bewildered in a hopeless labyrinth, without a thread to guide our entangled footsteps amidst the growing darkness. There has, indeed, been no want of attempts to explain the subject; but thus far, they have been attempts alone; ingenious conjectures, rather than enucleated facts. Thus some, among whom was the learned Boerhaave, resolved the proximate cause of gout into a morbid texture of the nerves and capillaries; and others, into a peculiar aerimony of the fluids; respecting the nature of which, however, those who adopted this view were never able to agree; several of them, like Hoffman, affirming it to be a tartaric salt, several, a bilious salt, several again, an acid, and several again, an alkali.

Hypothesis  
of Boerhaave:

of Hoffman.

Morbid matter  
by these writers  
supposed to be  
thrown off.

Has been said  
to be contagi-  
ous;

and even to  
affect dogs.

This morbid material, in whatever it consists, was supposed to be separated from the system and thrown off during the continuance of the paroxysm, which, consequently, it became the duty of the physician to encourage. And by some pathologists it was held, that the morbid matter thus despumated has, in various instances, proved contagious, and this not to man only, but to other animals as well: thus M. Pietsch informs us, that he has known dogs affected with the same disease by licking the ulcers that have followed upon a fit of gout accompanied with what he erroneously calls chalk-stones.

diet, will excite gout, is one that the editor has never seen a confirmation of; and if it were true, he thinks that the well-fed gouty priest, taken by the Barbary pirates, and made to work in the galleys, as mentioned by Van Swieten, ought, at all events, not to have been cured by low living and hard labour. In Scotland there is an old saying, that any man may free himself from gout by working for, and living on, sixpence a day. — Ed.

\* Gout is by no means common in very hot climates; and the summer in this country materially diminishes the number of cases. — Ed.

† De Rer. Nat. vi. 1117.

‡ Le Conte, Nouvelles Mémoires sur l'Etat present de la Chine. Paris, 1696.



Dr. Cullen has taken great pains in a series of nine consecutive arguments to prove the error or absurdity of most of these opinions: and then he proceeds to establish his own; which consists in regarding the proximate cause of a gouty diathesis as dependent upon a certain vigorous and plethoric state of the system; and the proximate cause of a gouty paroxysm as produced by an occasional loss of tone in the extremities, often communicated to the whole system, but especially to the stomach, succeeded by a powerful reaction in the same quarter, which constitutes the pain and inflammation, and is an effort of the *vis medicatrix naturæ* to restore the tone thus injured.\* But, by this hypothesis, we gain as little as by any of the preceding. It is obviously a mere extension of the Cullenian doctrine of fever to the disease before us, and is chargeable with the same incongruity: for here, as in fever, the stage of strength or increased energy is made to depend upon the stage of weakness; as the weakness or loss of tone is made dependent upon a peculiar vigour and plethoric state of the system. There is, indeed, no great difficulty in conceiving how loss of tone may follow excess of energy; but, by what means, recovered energy is to be a result of loss of tone, is a problem of more laborious solution.

One of the marks, by which a REGULAR PAROXYSM of GOUT is said to be distinguished from that of rheumatism, is the suddenness of its onset. This is true, as Sydenham has correctly observed, with regard to the general course of regular gout, in which the constitution is in other respects perfectly sound. But, in other cases, the fit is often preceded by certain prodromi, which those, who have suffered from it before, very sufficiently understand, and uniformly take as a warning; such as a coldness or numbness of the lower limbs, alternating with a sense of pricking or formication along their entire length; frequent cramps of the muscles of the legs; a crassament in the urine †; slight shiverings over the surface; languor and flatulency of the stomach; and sometimes a pain over the eyelids, or in some other organ. ‡

The paroxysm is said by Dr. Sydenham, who has drawn its picture to the life, to show itself most commonly in January or February; but I have known it occur so often towards the close of the summer, and in the autumn, and have attended so many patients who have never had it except in the latter seasons, that the rule does not seem to be in any way very well established. The first attack is usually in one of the feet, most commonly about the ball or first joint of the great toe: it commences at night, or during the night, and there is sometimes, though not always, a slight horror, succeeded by a hot stage. The local pain and swelling increase in violence, the joint assumes a fiery redness, and the whole body is in a state of great restlessness. The symptoms remit sometimes towards the next morning, yet occasionally not till the morning after; but they still return during the night, though in a more tolerable degree, for three or four days, or even a week: when the inflammation subsides, as by resolution; the foot almost instantly recovers its vigour, as though nothing had

GEN. XII.

SPEC. III.

Arthrosia  
podagra.Most of these  
views opposed  
by Cullen in  
favour of his  
own.a A. Podagra  
regularis.Described in  
its course.Sometimes  
preceded by  
particular  
signs.Generally  
appears in the  
spring, but not  
always.

Description.

\* Prael. of Phys., part i. b. ii. chap. xiv. lxxxiii.

† Butler, *Nadere ont dekkinge der menschelyke Waters*. Harlem. 1697.

‡ Eph. Nat. Cur. Dec., i. ann. iii. obs. 252.

GEN. XII.  
SPEC. III.  
a A. Podagra  
regularis.

been the matter with it; and if the patient have been antecedently indisposed, he enjoys, as on recovering from an ague, an alacrity of body and mind beyond what he has experienced for a long time before; the constitutional indisposition disappearing with the paroxysm.

Return of the  
paroxysm at  
first annual or  
less frequent:  
afterwards the  
intervals much  
shorter.

At the commencement of the disease, the return of it may be annual, or not oftener than once in three or four years; but it is perpetually encroaching on the constitution, so that the intervals gradually become shorter, and the attacks more frequent and of longer continuance: whence, as Dr. Cullen has justly observed, "in an advanced state of the disease, the patient is hardly ever tolerably free from it, except perhaps for two or three months in the summer."

Character of  
the inflamma-  
tion specific.

Nothing can be more specific, more true to itself, or more distinct from every other kind of inflammation, than that of the disease before us, when thus exhibited in a regular fit; the inflammation of erythema does not differ more from that of phlegmon than both these, and, indeed, every other, from that of gout: it never suppurates, never ulcerates when simple and genuine, however violent may be the attack, and though, to the eye of inexperience, the skin may seem to be on the point of bursting; while, in the midst of the severest pain, there is a sense of numbness, weight, and want of energy; insomuch that, if the pain could for a moment be forgotten, the limb would feel paralytic; and, though the muscles which move the limb be not affected, they raise it or drag it along like a dead load. If the inflammation run through its course where it first fixes, it subsides by a resolution that leaves no external discolouration, or internal weakness, or disability; and if it make a transfer from one extremity to another, it passes with inconceivable rapidity; the limb now affected being loaded with all the vehemence of the inflammatory action, and that lately the seat of pain, being all of a sudden restored to perfect soundness.

Metastasis not  
common in  
sound health:  
but the system  
weakened by  
fresh pa-  
roxysms.

It is rarely, however, that any metastasis takes place on its first appearance in a healthy constitution; nor indeed till after various organs, or the entire habit, have been weakened by repeated assaults. We have already observed, that it is the nature of the disease to weaken the habit in this manner till the system is completely broken down. In this case, the paroxysms, though much longer and more frequent, are less violent and painful than at first; but there is no joint exempt from its incursion, nor perhaps an internal organ that does not suffer from induced weakness: so that, in the language of Sydenham, "the patient exists only to be wretched and miserable, and not at all to taste of the happiness of life."

[In the inveterate and protracted form of the disease, the joints remain not only weak and stiff after the termination of the fit, but they become at length so contracted and disabled, that, although the patient can stand, and perhaps walk a little, yet it is very slowly, and with great lameness and difficulty. In many persons, though not in all, this immobility of the joints is further increased by the formation of concretions of a chalky appearance on the outside of them, and for the most part immediately under the skin. The secretion, or deposition of this matter is characteristic of the

Cont-concre-  
tions, or chalk-  
stones, as they  
are wrongly  
called.

disease, being the consequence of gouty inflammation alone. It seems to be deposited at first in a fluid form, but afterwards becomes dry and firm; in which state the concretions have the appearance of a friable earthy substance, and have been erroneously called *chalk-stones*. By the investigations of Dr. Wollaston, however, it has been ascertained, that they contain no calcareous or earthy matter; but consist of lithic or uric acid combined with soda, forming what the chemists term the lithate or urate of soda. These concretions occur principally about the joints of the toes and fingers, in little nodules, which Sydenham compares to crabs' eyes; but sometimes they appear about the larger joints, where they occasion a whitish swelling almost as large as an egg, which becomes gradually inflamed and red. There is an instance of a very large concretion of this nature, recorded in the surgical works of Sir E. Home. But perhaps the most curious case is that related by Mr. Watson: the patient, who was a martyr to gout, had so extensive a deposition of urate of soda, that the concretions not only enveloped the joints of his great toes, formed tumours on his legs, and rendered the synovia of the large joints as thick as cream, but "the joints of the fingers were swelled and knotty, every knot being a lump of chalk; and I was told (says Mr. Watson) that, when he played at cards, he used frequently to score up the game with his knuckles." \* It is singular, that our author, with his very extensive information on all subjects connected with medical science, should have fallen into the error of describing gout-concretions as really composed of lime.]

GEN. XII.  
SPEC. III.  
α A. Podagra  
regularis.

Their true composition.

It seems probable, that urate of soda has sometimes been thrown off by the skin. I have seen, says Swediaur, an inveterate case, in which the patient, labouring under a paroxysm of several months' duration, had the entire surface of the body covered every morning with a white powder, as though he had been dusted with flour. †

Urate of soda  
thrown off by  
the skin.

Thus far we have followed up the progress of a regular attack of gout in a constitution otherwise healthy and vigorous. But the same diathesis exists in systems of delicate and infirm health, and where there is a want of sufficient energy to work up a fit of inflammation, and throw it off at its appropriate outlets. And in such case, as soon as it becomes roused into action by any of the causes of excitement already enumerated, it constitutes the SECOND VARIETY, assumes the guise of various other diseases, as dyspepsy, hysteria, hypochondrias, palpitations of the heart, vertigo, hemicrania, with several modifications of palsy or apoplexy. The stomach and bowels, however, form the chief seat of affection; the appetite is fastidious or destroyed; a spasmodic stricture or painful oppression is felt in the epigastric region, or the stomach is distended almost to bursting with flatulence; nausea, eructations, vomiting, and all the symptoms of indigestion follow, and are alternated with severe colic or costiveness. In the meanwhile, the disease shows itself,

β A. Podagra  
larvata.

Found in  
delicate consti-  
tutions, and  
why.

Under various  
characters; but  
chiefly affects  
the digestive  
organs.

Fugitive  
paroxysms.

\* See Medical Communications, vol. i. art. 3. Two or three years ago, the editor saw a lady in the Fleet Prison, not more than thirty years of age, and the mother of several children, who was in such a state from deposits of urate of soda around almost all her joints, that her limbs were of little or no use to her. She had resided a considerable time in France; but had always been abstemious in her mode of living. When her knees were bent and extended, a rattling noise was produced, like what would arise from shaking a bag of marbles.—Ed.

† Nov. Nosol. Meth. Syst., i. p. 218.



GEN. XII.  
SPEC. III.  
β A. Podagra  
larvata.

at times, in one or more of the joints, in slight and fugitive pains, as though making an ineffectual effort to kindle up a paroxysm of proper inflammation, but which there is not energy enough in the system to accomplish; whence the articular pains cease almost as soon as they appear, and the visceral derangement is renewed; sometimes slowly subsiding after a continuance of several weeks, and sometimes wearing out the entire frame, and terminating in abdominal or cellular dropsy.

γ A. Podagra  
complicata.

How produced.

It sometimes happens, however, that while the general constitution of a podagric patient is tolerably sound, one or more of the internal organs form an exception to the general rule, and are less healthy than the rest. And as, upon an excitement of gouty inflammation in a gouty habit, the inflammation seizes ordinarily upon the weakest part of the body, it makes its assault upon such organ rather than upon the hands or the feet; or, if it commence in the latter, is readily transferred to it; constituting the THIRD OF THE VARIETIES before us, and which has usually been called RETROGRADE OR MISPLACED GOUT. And if the general system should, at the same time, be below the ordinary tone of health, when the paroxysm is thus excited by the force of some occasional cause, the organ affected may evince great languor and painful inertness, as in the second variety, rather than acute inflammation, as in the first. The sensation in the stomach, instead of being that of a fiery coal, is that of a cold lump of lead; in the head, it changes from maddening pain to oppressive horror, in which the patient suddenly starts from sleep almost as soon as he has begun to doze, from the hideousness of the ideas that rush across the mind and form the distracting dreams.

Symptoms  
explained.

Sensations  
when in the  
stomach: in  
the head.

Sometimes in  
the bladder or  
rectum.

The fit is sometimes transferred to the bladder; in which case, there is acute pain at the neck of the organ, strangury, and a discharge of thin aerid mucus from the urethra.\* The rectum has also been occasionally the seat of metastasis, and has evinced various species of affection, as simple vehement pain, spastic constriction, or hemorrhoidal tumours. When thrown upon the lungs, it mimics the symptoms of a peripneumony.

Errors relating  
to the two  
foregoing  
varieties.

[The following observations by Dr. Bateman appear valuable. Many errors have probably been committed, in considering almost every species of indisposition, that occurs in gouty habits, as arising from the gouty diathesis. We remember to have heard this point strenuously insisted upon by the able Professor of Physic in the University of Edinburgh, Dr. Gregory. Many of the symptoms above enumerated, are obviously connected with the impaired functions of the stomach, and occur in dyspepsia or indigestion. Such are various hypochondriac sensations; the palpitations of the heart, often proceeding from over-distension of the stomach with flatus, by which the heart is mechanically pressed upwards; cramps in different parts of the body, which are often relieved by a discharge of wind of the stomach: difficulty of breathing, often arising

\* "Not unfrequently there is a nephritic attack; an attack of inflammation of the kidneys, and a deposition of litlic acid, or some compound of it. Occasionally these things take place with the gout; occasionally they take place only during the intervals; but a deposition in the urine, and a fit of gout, where there is deposit in the joints, are frequently very closely connected." Professor Elliotson's Lectures, see Med. Gaz. for 1833, p. 822. — Ed.

from the distension of the stomach, which impedes the descent of the diaphragm; and the headach, giddiness, &c. which are daily observed to be connected with impaired digestion. On the other hand, inflammatory disorders of the lungs and other viscera, congestions in the head, inducing headach, somnolency, vertigo, &c. and ultimately various degrees of paralytic and apoplectic disease, not essentially different, in any respect, from the same affections in habits free from a gouty diathesis, have probably been suffered to go on, and to prove fatal, under the notion that they were gouty, and the proper remedies have been therefore neglected.\*]

In applying the art of medicine to the cure or alleviation of gout, our attention must be directed to the state of the patient during the paroxysms, and during their intervals; and particularly to the state of his constitution or previous habits, which, according to their character, may demand a different and even an opposite mode of management.

Let us commence with the PAROXYSMAL TREATMENT; and, first of all, with that of the inflammatory attack, as it shows itself in a regular fit of the disease.

It was formerly the belief, as we have already seen, that a gouty paroxysm was an effort of nature to throw off from the constitution, and thereby restore it to a state of perfect health, some peccant matter forming the proximate cause of the distemper; and it was hence also conceived in addition, to adopt the language of Sydenham, that the more vehement the fit, the sooner it would be over, and the longer and more perfect the intermission. And, in this view of the subject, there can be no question, that the wisest plan must have been that of leaving the paroxysm to run through its regular course without interruption. Yet, as this hypothesis has long fallen into discredit, we are not in the present day prevented, on such ground, from endeavouring to subdue the inflammation of a gouty paroxysm by the ordinary means resorted to in inflammations of any other kind, as bleeding, purgatives, sudorifics, local astringents, and even refrigerants. But a very general objection has since been taken to this plan on another ground; and that is, the great danger of repelling the disease to some internal organ of more importance, and thus of converting a regular paroxysm into a case of retrograde or atonic gout. And, in consequence of this apprehension, the practice, even in the hands of many of our most celebrated physicians, has, for a long period, been in the highest degree vague and vacillating. Sydenham prohibited equally purging and sweating of every kind, whether gentle or copious, and only allowed bleeding where the patient was young and vigorous, and on the first or second paroxysm: while of cold applications he takes no notice whatever. He admits, however,

GEN. XII.  
SPEC. III.  
7 A. Podagra  
complicata.

Indications of  
cure applicable  
to the pa-  
roxysms, and to  
the intervals.

Treatment  
during the  
paroxysms.

During the  
paroxysm of a  
regular fit.

How far the  
ordinary means  
used in tonic  
inflammations  
may apply.

Objection from  
supposed dan-  
ger of repul-  
sion:

and hence the  
general practice  
vague and  
vacillating.

Practice of  
Sydenham.

\* See Bateman in Rees's Cyclopædia, art. Gout. In this view Dr. Barlow also concurs. "A paroxysm of gout," says he, "can be regarded only as a constitutional disturbance of an inflammatory character, attended with local inflammation of a peculiar kind, in one or more joints, running a determinate course, and, in the earlier accessions, terminating in health for the most part, within a very few days. Such being the character of simple gout, there is no reason why the complications, so much dwelt on, should be considered as specially belonging to it, or regarded otherwise than as accidents arising from peculiarity of constitution, contingent derangements of health, or the lesions, or morbid tendencies entailed by preceding accessions." See Cyclop. of Pract. Med., art. Gout. — ED.

GEN. XII.  
SPEC. III.  
Arthrosia  
podagra.  
of Cullen;

the last decidedly adverse to the employment of refrigerants, and thinks most local applications induce a metastasis.

Objects to opium, and trusts chiefly to patience and flannel.

Why a more active course ought to be pursued.

Whether the fear of repulsion ought to extend equally to all the varieties, and the ordinary reducing process may not sometimes be used safely.

General character and tendency of the disease.

In healthy constitutions, the weakest parts are the extremities.

In unhealthy habits other parts.

Hence sometimes the extremities, and sometimes other parts, the seat of paroxysm.

the use of laudanum where the pain is very acute: trusting chiefly for the cure of the disease to an alterant regimen and apozems to be resorted to in the intervals. Dr. Cullen allows bleeding with the same restriction as Sydenham, though he recommends the application of leeches to the inflamed part, as at all times a safer practice than the use of the lancet. Of cathartics and sudorifics he takes no notice, otherwise than as these may enter into the general course of antiphlogistic regimen; he is decidedly adverse to the use of cold; and thinks that warm bathing and emollient poultices, blistering, burning with moxa, camphorated and aromatic oils, induce the inflammation to shift from one part to another, and consequently tend to repel the inflammation from the extremities to some more important organ: while opium, though it affords relief in present paroxysms, occasions them to return with greater violence; and therefore he observes, by way of conclusion, "The common practice of committing the person to patience and flannel alone, is established upon the best foundation." \*

Now, as we have already seen, that the gout, after it has shown itself in paroxysms, is never idle; that one paroxysm, in the opinion of Sydenham, Cullen, and every other physician, hastens on another, renders its intervals shorter, and its durations longer; and progressively saps all the energies both of mind and body, and renders life itself a burden; it is of serious importance to enquire, whether this fear of a repulsion, however well founded in some instances, be not allowed too generally? whether it be not possible to draw a definite line between the form of the disease in which it ought to operate, and that in which it ought not? and whether in the latter case we may not derive all the benefit from a full use of a reducing process, which is obtained in other inflammations accompanied with a like degree of constitutional vigour?

From the history of this disease, as it has already passed before us, we may draw this general corollary; that the specific inflammation of gout, or whatever other morbid character it may evince, when once excited by some occasional cause into action, has a peculiar tendency to fix and expand itself upon the weakest parts of the system, and, where several parts are equally weak, to pass in sudden transitions from one part to another, though transitions are rare where the system is sound.

In healthy constitutions, the weakest parts are the extremities; and hence, in such constitutions, these are the parts, as we have already seen, in which the gout uniformly opens its assault. Here it commences, and here it runs through its course, seldom migrating, or, when it does migrate, only passing from one extremity to another: as from foot to foot, or one of the feet to one of the hands; and limiting itself to these quarters, because they are the weakest parts of the system.

In unhealthy habits, however, the extremities are not the weakest parts of the system, but perhaps the stomach, or the heart, or the head, or the lungs, or some other organ; while several of these organs may, moreover, be equally debilitated, according to the idiosyncrasy, or to accidental circumstances. And, true to the general rule, we see the gouty principle, when roused into action

\* First Lines of the Practice of Physic, aph. DLXIX.



in habits of this kind, fixing itself from the first on one of those important viscera, rather than on the extremities; or roaming from one to another, on its alternating its course from these organs to the extremities, or from the extremities to these organs. And as metastases are rare where the system is sound, they become frequent in proportion as it loses this character, and especially in proportion to its debility in particular parts.

These are rules which we cannot too closely study and commit to memory, and they seem to point out to us the line of distinction between that form of the disease in which we ought to entertain a prudent fear of revulsion, and that in which we may safely act without any such fear whatever. They directly lead us to two states of constitution that require a very different, and in many instances a very opposite mode of treatment; and seem to settle the important question before us, under what circumstances it may be expedient to employ a palliative plan, and under what a cooling and reductive? \*

Let us commence with the first of these two states, forming a regular but violent fit of gout, as it shows itself in a sound constitution, and inflicts its torture on the hand or the foot. Guiding ourselves by the laws just laid down, there seems no reason why, instead of "committing the person to patience and flannel alone," we should not pursue the evacuating and refrigerant means employed in entonic inflammations of any other kind, and have cause to expect a like success; such as bleeding, so strongly recommended by Dr. Heberden, and allowed occasionally by Sydenham, and emptying the bowels, relaxing the skin generally, and cooling the fiery heat of the affected limb by cold water or any other frigorific application.\* With a transfer of morbid matter we have now no longer to contend. Yet, even where such a cause is admitted, as in most exanthems, the plan thus proposed is, in many instances, pursued without hesitation. Thus, in measles, cathartics and venesection are not only in general use, but often indispensable; in the height of malignant scarlet-fever, we sponge or wash the entire surface of the body with cold water; and in small-pox, not only purge freely, but expose the patient to the coldest atmosphere of the winter season.

In weakly habits or idiosyncrasies, or incidental debilities of particular organs, we have admitted that a metastasis, as we have already seen, is a frequent result, and peculiarly marks the character of gouty inflammation; and here, indeed, refrigerants, violent purgatives, and venesection ought to be most sedulously

GEN. XII.  
SPEC. III.  
Arthrosia  
podagra.  
Treatment of  
gout during  
the paroxysms.

And hence a  
distinct line of  
treatment  
pointed out,  
often perfectly  
opposite.

In sound con-  
stitutions no  
danger of  
metastasis:  
and hence  
evacuants and  
refrigerants  
may be em-  
ployed.

Illustrated by  
the treatment  
of exanthems.

In weakly  
habits metast-  
asis is com-  
mon; and  
hence the same  
treatment  
highly mis-  
chievous.

\* "In simple gout, we know of no good reason why the treatment applicable to the same degree of general fever and local inflammation, occurring from other causes, should not be employed: its general safety and efficacy we can faithfully attest, nor are we aware of any peculiar caution being required beyond what the accompanying state of the constitution and the attending symptoms must necessarily suggest. In all diseases, however inflammatory, the state of constitution requires to be taken into account in judging of the activity of practice that may be safely ventured on; and the same consideration is needed in gout; but, assuredly, none is due in this respect to the imputed essence of gout, nor to the apprehension of interfering with it, which has been too long suffered to paralyse the efforts of the practitioner." — Dr. Barlow in *Cyclop. of Pract. Med.* art. GOUT. These sentiments should never be forgotten with reference to the treatment of gout; and they seem to the editor to be supported both by reason and experience. — Ed.

GEN. XII.  
SPEC. III.  
Arthrosia  
podagra.  
Treatment of  
gout during  
the paroxysms.

Subject further  
explained.

Peculiar glow  
sometimes felt  
over the body  
on the repulsion  
of gout.

Advertency to  
facts proving  
the proposed  
plan injurious.

Yet highly and  
essentially  
beneficial in  
numerous  
cases.  
Hence a call  
for proper dis-  
crimination.

abstained from; and, not unfrequently, the best practice we can adopt is that of "committing the person to patience and flannel alone." But what I am anxious to establish is, that, agreeably to the laws which regulate the progress of gout, a metastasis in sound and vigorous constitutions is rarely to be expected, and perhaps never takes place, except from one extremity to another. In order that some internal organ may become the seat of transferred gout, it is necessary that it should possess a weaker action than the part from which the inflammation is to be transferred: but the parts of weakest action in a sound and vigorous constitution are the extremities themselves; and it is probably because the living energy is, in all the extremities, upon a balance, that in a sound frame a metastasis, even from one extremity to another, is a rare occurrence.

[In the foregoing argument, the doctrine, that the weakness or weak action of any part, is what disposes it to be affected by a metastasis of gout, is only asserted, and by no means proved. The abundance of fibrous and ligamentous structures about the foot and hand may seem to many pathologists a better reason for these parts being so disposed to gouty inflammation, than the hypothesis of weakness.]

As far as I have seen, the inflammation of a regular fit of gout subsides gradually, though rapidly, under the treatment now proposed, without any repulsion whatever. In a few instances, during the use of a cold pediluvium, or shortly afterwards, I have known patients speak of a peculiar kind of *aura* creeping over them and through them, and exciting an undefinable sense of glowing, which has lasted for a few minutes, without any inconvenience at the time, or even any change in the pulse; and certainly without any ill effect afterwards.

But, it may be replied, there is no resisting facts. The cases are innumerable in which great mischief has resulted from the depleting and the refrigerant plan; and, as we cannot always tell, that all the internal organs are or are not in a state of sound health, it is most prudent to abstain from a practice, which may prove highly injurious in case of a mistake.

The answer to this remark is, that here, as well as in every other disease, professional judgment is to be called into exercise, and the practitioner is to draw largely upon that skill and discrimination, which it was the object of his education to bestow upon him: and thus bestirring himself, he will rarely fall into an error. That mischief has resulted, and frequently, from the use of the plan before us, cannot be denied by any one; but that great and essential good, and an easy and rapid cure, have been also in hundreds of instances effected, must be admitted as readily. No clear distinctive line, however, has hitherto, so far as I am acquainted with, been acted upon, or even laid down; and hence it is rather to be ascribed to a want of discrimination upon this subject than the evils adverted to are chargeable, than to any mischief in the plan itself. Yet it may be doubted, whether the injury produced even by an injudicious use of evacuants and refrigerants, amounts to a thousandth part of that entailed on the constitution by allowing the gout to make its inroads tacitly and unresisted; till by degrees it triumphs equally over all the powers, as well of the body as of

the mind, and, in the forcible language of Sydenham, "The miserable wretch is at length so happy as to die." \*

Of the benefit produced by the external use of cold water, the author can speak from a trial of several years formerly upon his own person, and is only anxious that others should participate in what has proved so decisive a comfort to himself. It is his duty to state, however, that, apparently owing to too much exertion of mind in the composition of this work, the gout has since appeared, accompanied with a more irritable state of the general frame, than had hitherto been manifested. On this last occasion, therefore, he did not venture upon the cold bath, but confined himself chiefly to the wine of colicicum, with, very frequently, a full dose of magnesia; and, by this simple plan alone, he has again been able to obtain a restoration of health, and the full enjoyment of foot-exercise.

Yet the bolder practice before us is by no means of modern invention, however it may have become a subject of warm controversy in the present day. An active evacuant plan, both by venesection and purging, has never ceased to be in use among many practitioners, and is particularly alluded to by Sydenham, though with a view of entering his protest against it, as injurious to a free discharge of the peccant matter, which, in his opinion, required to be carried off; while, with respect to the external use of cold water, not to mention that it seems to be alluded to by several of the Greek writers, and especially by Hippocrates †, it has descended in a stream of recommendations from Zacutus Lusitanus ‡ in 1641, to Kolhaas § and Keck || in 1788 and 1789. Bartholin speaks of the use of snow as a common application in 1661 ¶, and Pechlin both of snow and cold sea-water towards the close of the same century. \*\*

But this treatment, I am ready to admit, has often been employed rashly, and sometimes with great and even fatal mischief. It ought never to be ventured upon except, as already stated, where the constitution is decidedly sound and vigorous; for, though I subscribe

\* "If the character of gout, in its simplest form, and highest intensity," as Dr. Barlow remarks, "be unequivocally inflammatory, it is difficult to conceive why its various shades and modifications should be otherwise regarded. The differences are not greater than are continually met with in several other diseases; nor, when they do occur, is there any difficulty in referring the peculiarities to the particular constitution, the effects of previous disease, and other contingent circumstances, amply sufficient to account for them. These circumstances may, and in numberless instances do, require that the appropriate remedies of inflammation should be applied with caution, but they can by no means warrant the principles of treatment founded on the inflammatory nature of gout being wholly reversed, as is too often witnessed. There has been too much disposition, arising from timidity, ignorance, and false theory, to transfer to simple active gout the cautions and the apprehension of interference, which the contemplation of the complex and less active modifications has given rise to." In the correctness of these observations the editor fully concurs: the principles here inculcated ought to have their proper weight in the practice of every man who wishes to treat this disease with success. — *En.*

† Aphor., sect. v. p. 25.

‡ *De Medicorum Princip. Historiâ*, lib. iii. Amsterd. 1641.

§ Baldinger, *Neuer, Mag.*, band. v. p. 521. 1788.

|| *Abhandlungen und Beobachtungen*. Berl. 1789.

¶ *De Usu Nivis medico*, 1661. 8vo.

\*\* *Observ. Physico-Med.* Hamb. 1691. 4to.

GEN. XII.

SPEC. III.

Arthrosia  
podagra.

Treatment of  
gout during  
the paroxysms.

Benefit exem-  
plified in the  
author's own  
person.

Return of  
paroxysm.

The practice  
not of modern  
invention,  
whether in  
respect to  
evacuants,

or refrigerants.

It has been em-  
ployed rashly  
and fatally.

Hence the  
necessity of at-  
tending to the  
line pointed  
out.



## GEN. XII.

## SPEC. III.

Arthrosia  
podagra.Treatment of  
gout during  
the paroxysms.Treatment of  
regular fit when  
a different plan  
is called for.Local applica-  
tions.Gentle aper-  
ients.Breathing  
perspiration.

Opium.

Regimen.

to much of Dr. Kinglake's therapeutical plan, I cannot agree with him, that a gouty paroxysm is a merely local affection. The treatment before us should be limited to those who are in full vigour, and perhaps entony of health; and is especially to be avoided where the stomach is dyspeptic, the lungs asthmatic, the heart subject to palpitation, the head to nervous pains or drowsiness; or where there is any known disability in any other important organ.\*

Yet even here we need not, I think, condemn the sufferer to the torture till eured by patience and flannel; for it will often be in our power at least to palliate his pain, and not unfrequently to expedite his cure, without any risk whatever of affecting his general state of health. Leeches may, in many instances, be applied where venesection would be of doubtful expediency; a liniment of oil of almonds, impregnated with opium, rubbed on the tumefaction with a protracted and very gentle friction, I have often found highly serviceable in mitigating the pain; and epithems of tepid water, as recommended by Dr. Scudamore, alone or mixed with a portion of ether or alcohol, formed by cloths wetted with the fluid, and applied to the inflamed part, renewable as they become dry, in many cases prove a grateful substitute for cold water; and are preferable to poultices, warm water, or even vapour-baths, which too generally relax and weaken the joint, and prevent it from recovering its elasticity, after the paroxysm is over, so soon as it otherwise would do.

At the same time, the body should be cooled with gentle aperients or injections; and, while drenching sweats are avoided, which never fail to be injurious, the breathing moisture or diaphoresis should be imitated, which often breaks forth naturally in an early part of the morning, and is sure to afford relief after a night of distraction. Nor should opium be omitted where the pain is very acute; for, while it affords temporary ease, it diminishes the duration as well as the violence of the paroxysm. Dr. Cullen, in his Practice of Physic, seems disposed to postpone the use of this medicine till the paroxysms have abated in their violence; for, when given in the beginning of gouty paroxysms, he asserts that it occasions the fits to return with additional fury. Yet, it should never be forgotten, that it is a law in the history of gout, and one to which we have already adverted, that the frequency and vehemence of the ensuing paroxysms are measured by the violence of those that have preceded.

In the mean time, the regimen should be light and un-irritant, and the diet below the standard to which the patient has been accustomed; though, to guard against a metastasis to the stomach, we must be cautious that we do not reduce it too much. His beverage should be cool and unstimulant: Sydenham allows him sound table beer, and, if he have been accustomed to stronger malt liquors, such a drink may be conceded to him. His chamber should be well ventilated, and his dress light and easy.

\* Though Dr. Elliotson approves of the use of a spirituous tepid lotion, he thinks that no medical practitioner is justified in recommending cold applications, as they may bring on apoplexy, violent gastrodynia, or an affection of the heart, and the speedy death of the patient. See Lectures in Med. Gaz. for 1833, p. 851.

In the two ensuing varieties, constituting atonic and retrocedent gout, we have a podagric diathesis grafted upon an unsound frame; the unsoundness being general or local: and, however fearless we may be of the disease fixing on any internal organ in the preceding variety, we have here a constant apprehension that it may do so, and, in many cases, see it commence in such organs.

In atonic gout, our uniform attempt should be to produce a transfer from the part on which it has seized, and fix it in the extremities: in retrocedent gout, on the contrary, to render the vacillating attack on the extremities more permanent, and prevent it from shifting to any other quarter.

To obtain the first intention, we have to strengthen, and even stimulate the system generally, by warm tonics and a generous diet, and, above all things, to take off the severe suffering, in whatever it may consist, from the affected organ; for the longer the fit continues there, the weaker the organ will become, and the less capable of any instinctive remedial exertion. At the same time, we may solicit the paroxysm to the extremities by putting the feet into warm water.

In atonic gout, the sufferings, though widely different, according to the seat of the disease, are almost insupportable. In the head the pain is maddening, or the disorder is accompanied with great horror, or mimics the stupor of an apoplexy: in the stomach, there is a faintness like that of death, with the sense of a cold lump of lead lodged within it; or there is a gnawing or a burning agony, or a spasmodic stricture which cuts the body in two, and renders breathing almost impossible; often also accompanied with a rapid and sinking palpitation of the heart.

It is of importance, before we proceed, to determine accurately that these anomalous symptoms are really those of gout; of which we have chiefly to judge from the general character of the patient's constitution, his hereditary predisposition, habits of life, and the ailments to which he has been previously subject. In most cases, during the paroxysm, and especially where the stomach is affected, the warmest cordials are necessary, as brandy, the aromatic spirit of ammonia, the tincture of ginger or of capsicum; or, what is still better, usquebaugh. And it is always advantageous, and especially where the bowels are confined, to add to it some warm aperient, as aloes or rhubarb. Most of our family gout cordials are made upon this principle, and judiciously consist of some active aperient, and the hottest aromatics dissolved in ardent spirits. And the patient, who is subject to these attacks, should never be without having something of this kind at hand, since the paroxysm often makes its onset without any warning. Yet he should resolutely forbear having any recourse to any such medicine, except in the time of necessity; for an habitual indulgence in any of them will still farther debilitate the affected organ, and indeed the entire system; and hence quicken the returns of the paroxysm, and render the stimulant antidote less availing. The best aperient, and at the same time stimulant medicine that I know of for this purpose, is the essential oil of turpentine; which, as uniting the powers of an active cathartic and a camphorate cordial, gives us all the qualities we are looking for. I do not know that this valuable medicine has ever yet been brought into general practice in any form of gout; but I

GEN. XII.  
SPEC. III.  
Arthrosia  
podagra.

Treatment in  
the second and  
third varieties.

Curative inten-  
tion in atonic  
gout: in re-  
trocedent.

The first  
obtained by  
tonics and a  
generous diet.

Pediluvium.

Sufferings in  
this variety  
often insup-  
portable.

How to deter-  
mine that the  
anomalous  
symptoms are  
really from  
gout.

Stimulant  
cordials,

made aperients.

Some such cor-  
dials should be  
always at hand.

Essential oil of  
turpentine.

GEN. XII.

SPEC. III.

Arthrosia  
podagra.Treatment of  
gout during  
the paroxysms.Etherial pre-  
parations.

Phosphorus.

Musk.

External  
irritants.Opium inter-  
nally as a  
sheet-anchor,  
in large doses.

Exemplified.

Remedial  
process in retro-  
cedent gout.Local action  
when lingering  
in the extremi-  
ties to be aug-  
mented by local  
irritants: light  
but generous  
diet: mild  
aperients.

may venture to predict, that those who try it, in the modification before us, will seldom have to repent of their experiment. The dose should be about six drachms, swallowed unmixed.

Most of the preparations of ether, contained in the current Pharmacopœia of the London College, may be employed with benefit in the variety before us, and particularly in that icy coldness of the stomach, accompanied with a numbness of the limbs and a rapid palpitation of the heart, under which it occasionally exhibits itself. Phosphorus itself has sometimes been ventured upon, in this case, in the proportion of two or three grains to a dose, dissolved in double the proportion of ether; but I have never employed it, and cannot speak of its good effects. Musk seems, in many instances, to have been of decided advantage, if given in sufficient doses, as well in gouty affections of the head as of the stomach. The case related by Mr. James Pringle is strikingly in its favour \*, and seems to have induced Dr. Cullen to make trial of it in similar instances, who found it produce sudden relief, by free doses repeated after short intervals; and this where the lungs, as well as the head and stomach, were the seat of transferred disease. †

External irritants may also be beneficially employed at the same time, and particularly those of rapid action, as the compound camphor liniment, sinapisms, and the burning of moxa, or coarse flax, as recommended by Hippocrates: at the same time the extremities, as already advised, should be plunged in the warm bath.

But our sheet-anchor is opium; and it should be given freely, and in union with some preparation of antimony, so as to act towards the surface generally, and thus restore to the living power its interrupted equilibrium. Small doses of opium will here be of no avail; and we may generally repeat or increase the quantity to a large amount with perfect safety. "In a case of the gout in the stomach," says Dr. Cullen, "I have by degrees gone on to the dose of ten grains twice a day; and, when the disease was overcome, the dose of opium was gradually diminished, till, in the course of two or three weeks, it was none at all: and in all this no harm appeared to be done to the system. We frequently find that when a strong irritation is to be overcome, very large doses may be given without procuring sleep, or showing any of those deleterious effects that, in other cases, appear from much smaller quantities. All this appears from the practice now well known in tetanus, mania, small-pox, gout, and syphilis." ‡

In retrocedent gout, the same plan is to be pursued where the attack has actually shifted from the feet or hands to some internal organ. But where it still lingers in the extremities, though with slight pain and inflammation, and frequent cessations, as though it were on the point of removal, we should increase the morbid action by local irritants applied to the joint, as camphor, ammonia, blisters, sinapisms, or the moxa; and at the same time prescribe a light, but generous diet, with rather more wine than the patient is in the usual habit of taking; carefully avoiding all violent cathartics, and keeping the bowels moderately open with rhubarb, aloes, or the compound colocynth pill.

\* Physical and Literary Essays, vol. ii. art. xii.

† Mat. Med., part ii. ch. viii.

‡ Id., part ii. ch. vi.



In gout, however, the INTERVALS OF THE DISEASE are of as much importance to be attended to as its paroxysms : and here, also, the mode of management under the first form should differ essentially from that under the second : for, though the occasional causes may in many cases be the same, they have in the former to operate upon a vigorous, perhaps upon an entonic scale of power, and in the latter upon a scale decidedly reduced and atonic.

In every variety, all known occasional causes must be equally avoided. Where the diet has been too rich, it must be lowered, and where too spare and abstemious, made more liberal. Indolence and a sedentary life must give way to regular exercise ; and over-exertion of body or mind, to repose and quiet. In the young, robust, and corpulent, whether the disease result from too great indulgence at the table, or an habitual taint, it may be requisite to abstain from animal food, wines, and fermented liquors, altogether ; but where the sufferer has passed considerably beyond the zenith of life, and the luxuries of the table have become habitual, his ordinary fare should be reduced or diminished, rather than entirely commuted. And, in every change, it is better to proceed slowly, than to rush rapidly from one extreme to another : since nothing has so great a tendency to prepare the internal organs for gouty paroxysms, as such sudden and violent transitions. The bowels should be kept in regular order, and the hour of rest be early.

A due and unswerving attention to these general rules of the hygiene will often be sufficient to keep those free from all disturbance of the gout for many years, and perhaps for the whole of their subsequent life, who have only known it in the form of a few regular paroxysms. But where the system, and especially the digestive function, are weak, and the patient has had anticipations of atonic or recedent gout, or has actually suffered from its assaults, it will be necessary to superadd a course of INVIGORATING MEDICINES.

There are three classes of remedies that generally pass under this name ; stimulants, bitters, and astringents. The first increase the action, the two last augment the tone. Stimulants can rarely be employed alone, except in cases of emergency ; for a lax state of fibres will bear little increase of action, without, at the same time, suffering an equal increase of debility. But they may often, and in the case of gout perhaps always, be combined with astringents and bitters with great and decisive benefit. Upon this subject, however, I have already treated so largely under LIMOSIS DYSPERSIA, or INDIGESTION\*, that it is only necessary to refer the reader to that part of the work for the present purpose.

Most of the celebrated specifics for preventing a return of gout have been formed of these classes of medicines in combination, and especially of bitters and aromatics ; and it is singular that, although the variety of them which nature offers to us is almost infinite, they have been employed with little change from the time of Galen and Cælius Aurelianus in the second century, to that of Sydenham in the seventeenth. The famous powder, purchased by the second Duke of Portland, who distributed its receipt for general use, from the service it appeared to have rendered him, is formed for the most part of the very same ingredients, modified either from the Greek

GEN. XII.

SPEC. III.

Arthrosia

podagra.

Treatment during the intervals of gout.

Occasional causes to be avoided.

Changes in established habits to be made slowly.

General rules of regimen sufficient where the general health is good ; but not so in delicate habits subject to the two last varieties.

Remedies in delicate habits subject to atonic gout. Stimulants.

Astringents and bitters.

Popular specifics for preventing gout formed of these ; from Galen to Sydenham.

\* Vol. i. Class I. Ord. 1. Gen. v. Spec. 7.

GEN. XII.  
SPEC. III.  
Arthrosia  
podagra.  
Treatment  
during the in-  
tervals of gout.  
Portland  
powder :  
Its composi-  
tion.

Real effects of  
such medicines  
doubtful, from  
various causes.

When mischief  
has followed,  
the disease may  
have produced  
it :

where good has  
followed, the  
regimen alone  
may have pro-  
duced it : or  
the bitters  
alone, accord-  
ing to the state  
of the body.  
Hence great  
caution neces-  
sary.

Some bitters  
more narcotic  
than others.

All bitters alike  
in this respect,  
according to  
Cullen.

And hence in-  
jurious to all  
patients.

writers, Cælius Aurelianus and Ætius, or from Dr. Sydenham's prescription ; though it is a simplification of the latter, by omitting several of the articles that enter into his composition, one or two of which had better be retained. In this reduced form, it consists of equal parts of the five following materials, finely powdered and intimately commixed : birth-wort, gentian, germander, ground-pine, and the tops and leaves of the lesser centaury. The dose is a drachm taken fasting every morning for three months ; after which it is to be reduced to three quarters of a drachm for three months longer ; then to half a drachm for the remainder of the year ; and, after this, the same dose is to be continued, every other morning only, through the next twelve months : by which time it is presumed that a cure will be accomplished.

The real effect of this and similar medicines is very doubtful, and the doubt arises from the gradual mischief, which a gouty diathesis has a tendency to produce in the corporeal system : and the benefit which the exact and abstemious regimen that is prescribed during the use of the Portland or any other course of bitter tonics, is calculated to afford of its own accord. In some instances, such medicines seem to have produced little or no effect of any kind : in others, the joint result of remedy and regimen seems to have been highly salutary ; while, in others, again, the patients, though freed from open and decided fits of the gout, appear to have sunk gradually under complaints more distressing and fatal than the gout itself, as dyspepsy, lowness of spirits, and dropsies of almost every part, especially hydrothorax, ascites, and anasarca.

Now, it is possible that the regimen alone may have produced the good, where good has been experienced, and the gouty diathesis the evil, where evil has followed ; or that the bitter tonics themselves may have done both, according as the individual to whom they have been administered has been in a proper or improper state of body for a trial of them. They are not to be used indiscriminately ; for, while the relaxed and debilitated, those who are subject to atonic and retrocedent gout, may have recourse to them with great advantage, they will be sure to prove injurious to those of high tonic health, and who are distinguished by attacks of gout in regular but vehement paroxysms.

Some bitters, even among those in common use, may possess more of the sedative and narcotic principle than others ; and, where this is the case, though such may be fittest for employment in the first instance, they ought to be dropped for others of a different kind, as orange-peel, bark, columbo, and serpentaria, as soon as all local irritation has ceased. The strongest bitter we are acquainted with is the *nux vomica*, and the narcotic quality of this is known to every one. Opium possesses it in a still higher degree. It has of late been suspected to exist in wormwood, and been distinctly traced in the hop and some of the lettuce tribe.

Dr. Cullen, however, has taken a different view of this subject. He supposes all bitters to possess a deleterious quality of some kind or other, and that, in all gouty persons, they have a power of warding off fits of this disease ; but that, from this deleterious property, when long persevered in, they weaken the stomach and other organs of digestion to which at first they gave tone, and thus ultimately induce the diseases we have just noticed, and which are



too apt to follow upon a debility of these viscera. And, in proof of this opinion, he tells us of the fate of nine or ten persons who had been liable for some years before to have "*a fit of a regular or very painful inflammatory gout*, once, at least, and frequently twice, in the course of a year; but who, after they had taken the Portland powder for some time, were quite free from any fit of inflammatory gout," and, having completed the course prescribed, "had never a regular fit, nor any inflammation of the extremities, for the rest of their life. In no instance, however," continues Dr. Cullen, "that I have known, was the health of these persons tolerably entire. Soon after finishing the course of their medicine, they became valetudinary in different shapes, and particularly were much affected with dyspeptic, and what are called nervous complaints, with lowness of spirits. In every one of them, before a year had passed, after finishing the course of the powders, some hydropic symptoms appeared, which, gradually increasing in the form of an ascites or hydrothorax, especially the latter joined with anasarca, in less than two, or at most three years, proved fatal."\*

As Dr. Cullen gives us no account of any mischief that has followed the use of bitter tonics in constitutions marked by general debility and atonic gout, the evils he has described seem, on his own evidence, to be limited to those whom we have already cautioned against the employment of such a course. No proper classification or line of distinction seems to have been drawn or adhered to; which would probably have presented us with very different results if it had been, and have superseded the clashing and unsatisfactory explanation of atonic effects uniformly produced by a continuance of tonic medicines.

The subject, however, requires to be further examined by a more accurate classification of gouty patients who may be put under the influence of medicines of this kind; and I throw out the hint for this purpose. Yet, that a persevering course in bitter tonics does not uniformly prove in any way injurious to those who engage in it, is, I think, demonstrable from the daily use of table-beer in almost every family throughout the country, and its appearing to be one of the wholesomest beverages we can adopt. Dr. Darwin, indeed, ventures to ascribe part of the mischief produced by highly-spirited malt-liquors to some noxious quality in the hops they contain; but the stronger and headier malt-liquors are uniformly prepared with a much smaller proportion of hops than the weaker, and especially than those which go under the name of table-beer. For the only point aimed at by the employment of hops is to prevent an acetous fermentation, which is effectually guarded against by the larger proportion of spirit contained in ale and strong beer, but which every one knows would soon take place in table-beer if it were not powerfully impregnated with this grateful bitter. And hence the remark of Dr. Darwin seems to have no foundation whatever, since the stronger bitter affords a beverage proverbially wholesome, while the weak bitter is that which proves injurious.

There have also, in all ages, been offered to the public, specifics for the sudden cure or removal of the paroxysm when present, as well as for preventing its return hereafter. Lucian, in his Tragicopodagra, gives us, with great humour, a list, that occupies a page,

GEN. XII.  
SPEC. III.  
Arthrosia  
podagra.  
Treatment  
during the intervals of gout.  
Instances appealed to in proof of this.

But such instances prove the contrary when nicely examined.

The subject requires further examination.

That bitters are not universally injurious evidenced from the use of hop in table-beer.

Specifics for a sudden cure of the paroxysm.

\* Mat. Med., part II. ch. ii.



## GEN. XII.

## SPEC. III.

Arthrosia  
podagra.Treatment of  
gout by re-  
puted specifics.Such from the  
time of the  
Greeks: and  
many of them  
the same to the  
present day.Hellebore.  
Meadow-  
saffron.Husson's Eau  
médicinale;Vinum  
colchici.Effects alike;  
probably from  
like compo-  
nents.Trials of col-  
chicum wine  
by Sir Everard  
Home.Whether it  
acts by a spe-  
cific power.If a specific  
power over the  
paroxysm, such  
medicines have  
none over the  
diathesis;

of such as were chiefly in vogue in his day; and the catalogue is certainly not diminished in our own. Those that have acquired the highest reputation appear to have been composed of some species of hellebore, or of meadow-saffron: the first of which is among the remedies quoted by Lucian; though it is probable that the *ῥίζαν* 'ΕΑΛΕ'ΒΟΡΟΥ of the Greeks was a different plant from either the white or black hellebore of modern dispensatories.

The favourite specifics of the present day are M. Husson's Eau médicinale, and the vinum colchici, or wine of meadow-saffron. The exact components of the former are kept a secret; though its basis is well known to be either the one or the other of the above plants, most probably the meadow-saffron. The effects of the Eau médicinale and of the colchicum wine do not essentially differ; for, after taking about sixty drops of either, the pulse becomes slower, and at length sinks, in about twelve hours, from ten to twenty strokes in a minute below its natural number, at which time the inflammation subsides. The action of both medicines is accompanied with great languor and a deadly nausea or sickness, which terminates in vomiting, or a discharge from the bowels, or both. If the dose be in a small degree in excess, the symptoms are syncope, cold sweat, extreme prostration of strength, violent vomiting and purging, a wiry and almost imperceptible pulse, or a state of utter and very alarming insensibility. And, in some constitutions, these effects have followed from the use of even a common dose.

Sir Everard Home made several trials of the colchicum wine on a dog, both by the stomach and by infusing it into his jugular vein. From thirty drops he recovered in about seven hours; from sixty drops, in eleven; but a hundred and sixty drops, thrown into the jugular vein, killed him, after having suffered great agony, in five hours. On opening him, the stomach, smaller intestines, and colon were highly inflamed.\* And it is hence obvious that this medicine, like many other emetics and cathartics, acts rather upon the stomach through the medium of the circulation, than on the system through the medium of the stomach. It is possible that the colchicum may act by a specific power on the peculiar inflammation of a regular fit; yet, as other intestinal irritants have occasionally produced a like effect, and particularly the *gratiola officinalis* (hedge-hyssop), and *ranunculus flammula*, the disappearance of the paroxysm may also be ascribed to a transfer of action to the stomach and intestines. Generally speaking, specifics operate by a secret and inexplicable power, as the bark in intermittents, the vaccine virus in shielding the constitution against small-pox, and mercury in syphilis; for, though a pyalism gives proof that the system is impregnated with the last, there are few practitioners so attached to the Cullenian doctrine in the present day, as to contend that the venereal virus is carried off by the salivation, since we are perpetually beholding it carried off under the influence of mercury without any salivation whatever.

Yet, admitting that the colchicum has a specific power over a regular inflammatory paroxysm of gout, it is clear, that it has no such power over the gouty diathesis, since the paroxysm has never been so removed as not to return again. And it hence becomes a serious question, whether the mischief produced in the constitution

\* Phil. Trans., 1816, art. xii. xiii.

by the employment of so active a medicine, in the large doses recommended by some practitioners, be not greater than the temporary good obtained by the suppression of the inflammation?

From the rapidity and force of the operation, it is clear that they ought never to be tried, or never without the utmost caution, except in the first variety of gout, or where the system is firm and healthy, and the disorder shows itself in a regular fit. And as it is highly desirable, for reasons already stated, to restrain the violence of the paroxysm, shorten its duration, and carry it off as soon as possible, the use of the one or the other of these medicines, may be judicious, so long as the system is able to recover itself with speed from their influence, and provided the patient limits himself to the smallest dose that will answer the purpose.

Yet these medicines, from too little attention to their real effects, and from a mistaken idea that they are equally a specific for gout under every form, have not often been confined to the entonic variety, nor employed with sufficient discrimination in the second and third varieties of the disorder, in which the system, and particularly the digestive organs, are in a state of chronic debility; and the inflammatory fit, when it shows itself in the hands or feet, is incomplete and evanescent. In all such cases, such medicines, without the superintendence of much practical caution and judgment, cannot fail to do serious injury to the constitution. They have a tendency to increase the ventricular weakness, and hereby to leave the system more open to all the miseries which gout is so perpetually entailing. And hence the reason of the very general complaint among those who have tried these remedies, that, although they remove the fit at the time, they shorten the intervals, and render their frames more obnoxious to relapses. In my own person, I have never exceeded forty drops of the colchicum wine, prepared after the form of the Royal College; and I have seldom failed to find this serviceable, though I cannot affirm that it has been uniformly so.

The remarks of Dr. Lucas upon this subject are well worthy of attention, and, as being offered since the first edition of the present work, may be quoted as confirming the author's views. Having contended for a specific principle in gout, which he thinks obvious from the peculiar acid smell of the perspiration, and the deposit of urate of soda concretions, he proceeds as follows:—"I am much strengthened in this opinion by the effects of the Eau médicinale and other gout medicines of the day in procuring summary relief in the first instance, at the expense of more frequent visits of the disorder, till at length it is constantly present, and in some form or other proves fatal. The inflammation, here, is probably cured before the morbid matter can be thrown off, which, therefore, shortly renews its attack, while the powers of the constitution generally give way under this unsuccessful conflict: for it does not appear how the cure of inflammation, abstractly considered, can be too rapid, if effected with safety to the organisation."\* It hence follows, as already observed, that our great object in the em-

GEN. XII.

SPEC. III.

Arthrosia  
podagra.and hence may  
be of temporary  
use, at a great  
expense of the  
constitution.More discrimi-  
nate trials  
required.But ought  
never to be  
tried except in  
entonic gout.Have been  
often tried im-  
properly;and hence  
made produc-  
tive of serious  
injury.

\* On the Principles of Inflammation and Fever. 8vo. 1822.

GEN. XII.  
SPEC. III.  
Arthrosia  
podagra.  
Treatment of  
gout by re-  
puted specifics.  
Bandages.

ployment of these medicines should be to moderate the inflammation, without trenching on the strength of the constitution.\*

Where the inflammation has subsided and weakness alone remains, and an inability to use the limb without pain, I have at times found the support of a compressing bandage produce considerable comfort.

## SPECIES IV.

### ARTHROSIA HYDARTHROS.

#### WHITE SWELLING.

COLOURLESS SWELLING, CHIEFLY OF THE LARGER JOINTS; INFLAMMATION SLOW, AND DEEP-SEATED: PAIN FIXED AND SEVERE: IMPERFECTLY SUPPURATIVE: FEVER A IECTIC.

GEN. XII.  
SPEC. IV.  
Relation of the  
present species  
to the preced-  
ing two.

THIS inflammation, like that of rheumatism, attacks the larger, rather than the smaller articulations. Yet, as the joints are uniformly the seat of its assault, and it frequently runs through its course without the production of genuine pus, however severe its symptoms and fatal its termination, it has a manifest relation to the two preceding species, and ought to be arranged under the same genus.

Here also a  
peculiar predis-  
position;  
sometimes in  
robust frames;  
sometimes in  
relaxed, ex-  
hibiting several  
distinct forms.

The ordinary occasional cause is a strain, or some other injury to the joint affected; but this cause does not equally operate in all persons to the production of such a result; and it is hence obvious, that there is, as in the case of gout and rheumatism, a predisposition or peculiar diathesis favouring the origin of hydarthrus, existing in some individuals, to which others are strangers. And we find this predisposition showing itself also, as we have already seen, in the podagric diathesis, both in persons of a strong, robust, and tonic state of health, and in persons of relaxed and inelastic fibres, particularly in those who inherit a scrofulous taint. And hence the

\* Colchicum rarely proves beneficial, unless it produce either nausea, copious perspiration, or purging, or all these effects together. Hence, the common practice is to give the vinum colchici in half-drachm doses, every four or six hours, joined either with magnesia, or the sulphate of magnesia, so as to determine its action to the bowels. Modern practitioners seem to be acquiring every day greater and greater partiality to colchicum as a means of relieving gout; and, while the apprehension of various evils from its free employment, is not universally allowed to be well founded, its action in shortening the paroxysm of the disease, as soon as nausea or purging is brought on by it, is very generally acknowledged. In cases of active gout, occurring in a full habit, it is best always to let bleed, and a purgative of calomel and antimony, precede the exhibition of colchicum. Dr. Spillan, of Dublin, prefers a tincture of the seeds, of which  $\text{ʒi.}$ ,  $\text{ʒiiss.}$ , or  $\text{ʒij.}$ , may be given at night, and repeated, if necessary, the next morning. This quantity, he says, will generally purge briskly; but if it fail, a third dose the following night will be sure to succeed. (See his Supplement to Pharmacopœia.) The editor, instead of encountering this risk of losing so much time, prefers giving the wine of colchicum in a mixture, containing magnesia, or the sulphate of it. Colchicum purges, allays pain, and lowers the pulse, and, when we know these facts, we need not trouble ourselves with an enquiry, whether it has a specific power over gout, or not. — *Ed.*



disease exhibits itself under distinct forms, seats itself in different parts of the joint, and demands different modes of treatment.

[In the foregoing editions of this work, the author took his description of white swellings chiefly from the writings of Mr. B. Bell, and adopted the very hypothetical division of the disease into *entonic* and *atonic*, meaning by the former case the rheumatic white swelling of several other writers, that most frequently takes place in young plethoric people, "possessing that firm elasticity of health and fibre, which, upon the application of accidental causes, gives rise to rheumatism, as well as this variety of hydarthrus." The *atonic* white swelling was, in our author's opinion, a name suited for that variety, which commences in the cancelli of the bones. It is rather extraordinary that Dr. Good should have preferred this principle of division, and selected the epithets *entonic* and *atonic*, which involve us at once in conjecture and hypothesis, instead of a division of the subject founded upon facts demonstrated by dissection, and a choice of names, calculated to express, as correctly as possible, the particular texture chiefly and primarily concerned in each variety of white swelling, and the nature of the morbid changes. When it is considered, that our author was not unacquainted with the valuable researches of Mr. Brodie, the course adapted seems the more singular. The editor, not feeling that it would be right, in the present state of surgical knowledge, to repeat the author's description of white swelling, has been obliged to introduce a short sketch of the subject arranged on other principles.

Hydarthrus is divisible into the following varieties:—

- |                        |  |
|------------------------|--|
| α Membranæ synovialis. | White swelling commencing in the<br>synovial membrane. |
| β Cartilaginum.        | ——— commencing in the carti-<br>lages.                 |
| γ Ossium.              | ——— commencing in the bones.                           |

The term, *white swelling*, has been commonly applied to enlargements of the joints, in consequence of the colour of the skin being often not at all changed, even in very advanced periods of the disease. As it expresses what is generally true, the name can hardly be found fault with on the ground of its conveying any erroneous notion; yet, it is objectionable on another principle, which is, that it is applied to several diseases of the joints, which are of very different characters in every other respect, thus tending to keep up a want of scientific discrimination, which conduces to a great deal of confusion and obscurity in practice. The texture of the joint, principally and primarily concerned in the disease, and the nature of such disease, form, as we have already remarked, a better and more useful basis of nomenclature.

The synovial membranes of the joints constitute bags, without any external opening; in this respect, resembling the peritonæum, the pleura, and the pericardium, to which Mr. Brodie conceives it also bears some analogy, both in its functions and diseases. At all events, experience proves, that it is frequently the seat of inflammation; it is in fact one of the fibrous textures, particularly pointed out by Bichat and other writers, as a common situation of

GEN. XI.  
SPEC. IV.  
Arthrosia  
hydarthrus.

α A. Hydar-  
thrus mem-  
branæ syno-  
vialis.

Inflammation  
of synovial  
membrane.

GEN. XII.  
SPEC. IV.  
a A. Hydar-  
thrus.

rheumatic inflammation. The consequences of its inflammation, as enumerated by Mr. Brodie, are, first, a preternatural secretion of synovia; 2dly, effusion of coagulable lymph into the joint; 3dly, in other cases, a thickening of the membrane; a conversion of it into a gristly substance; and an effusion of coagulable lymph and serum into the cellular texture, by which it is connected to the external parts. In the museum of the London University are several specimens of adhesions of the folds of the membrane to each other, the result of previous inflammation. Unless the disorder arise from mechanical injury, inflammation of the synovial membrane rarely terminates in suppuration. When the disease is unchecked, it may lead to ulceration of the cartilages; but, he thinks that, where this change is combined with inflammation of the synovial membrane, the affection of the cartilages is mostly the primary one, and that of the membrane the consequence of the formation of an abscess in the joint.\*

#### Diagnosis.

The symptoms are pain in the joint, frequently very severe at one particular spot, and followed in a day or two by swelling. At first, the swelling arises entirely from fluid in the cavity of the joint; but afterwards the synovial membrane becomes thickened, or lymph is effused on its outer or inner surface; the fluid in the joint is, therefore, less easily felt, and the mobility of the joint itself diminished. As the swelling is chiefly produced by the distended state of the synovial membrane, its shape is not that of the heads of the bones, and is modified by the resistance it meets with in certain directions from ligaments and tendons. The disease is less frequent in the hip and shoulder, than in the more superficial joints. After inflammation of the synovial membrane has subsided, the fluid is absorbed; and in some instances, the joint regains its natural figure and mobility; but, in other cases, swelling and stiffness remain, and the patient is very liable to a recurrence of the disease, whenever he is exposed to cold, or takes much exercise. Sometimes the inflammation not only lingers in the part, but extends to other textures, and at length the cartilages ulcerate, suppuration is established, and the articular surfaces are destroyed.

#### Causes.

Inflammation of the synovial membrane seldom attacks young children; but is very frequent in adults: a feature in which it exhibits a resemblance or relationship to the rheumatic inflammation of fibrous textures in general. Indeed, it is this species of white swelling that is particularly implied in the descriptions given by many writers of the form of the disease, to which they apply the epithet *rheumatic*. Mr. Brodie further remarks, it may occur as a symptom of gout, or rheumatism; or of derangement of the health by syphilis, or the unskilful use of mercury. In other examples, the affection of the joint is quite local, being produced by a sprain, or contusion, an extraneous cartilaginous body in the joint, or, what is still more usual, by exposure to cold.

#### Treatment of inflamed syno- vial membrane.

When the case has arisen from the ill effects of mercury, Mr. Brodie recommends sarsaparilla; when from rheumatism, opium conjoined with diaphoretics, and the colchicum, which is also par-

\* See Brodie's Pathological and Surgical Obs. on the Diseases of the Joints, pp. 16 and 19. 2d edit. Lond. 1822. A different view of this point is adopted by Mr. Key. See Med. Chir. Trans. vol. xix. — Ed.

ticularly useful where the complaint is connected with gout. But, when several joints are simultaneously attacked, he deems the moderate use of mercury the most successful practice.

In all cases, however, Mr. Brodie has found topical treatment the most important. In the acute stage of the inflammation, he has recourse to leeches and even venesection; aperient medicines; saline draughts and diaphoretics; and, when the swelling and tension are very great, he prefers fomentations and poultices, but, under other circumstances, cold lotions. In the chronic stage, perfect quietude of the joint, leeches or cupping, repeated several times, and a cold lotion, are the means advised. When the inflammation has somewhat yielded, he applies large blisters, and, if necessary, repeats them from time to time; a plan, which he finds more effectual than that of keeping a single blister open with the savine cerate. In a further stage, when the inflammation has yielded still more, he employs strong liniments, containing a proportion either of lin. ammonia, tinctura cantharidum, or sulphuric acid. The remaining stiffness will be removed by friction with the hand alone, or camphorated mercurial ointment; free exercise of the limb; or by allowing a column of water to be pumped on the joint from a height, as is practised at the watering-places.

Another form of disease, affecting the synovial membrane, and commonly classed as a white swelling, is that in which the membrane is converted into a thick pulpy substance, of a light brown colour, intersected by white membranous lines. As the disease advances, it leads to ulceration of the cartilages, caries of the bones, wasting of the ligaments, and the formation of abscesses. According to Mr. Brodie's investigation, the disease is slow, but, in the end, the joint is invariably destroyed. The case is rarely seen in any other joint than the knee.

GEN. XII.  
SPEC. IV.  
a A. Hydar-  
dus.

Natural structure of the synovial membrane destroyed.

The disease commences with a slight stiffness and tumefaction, without pain. At last, the motion of the joint is generally seriously impaired; though, in some cases, a certain degree of it remains. The swelling is less regular, than that produced by inflammation of the synovial membrane, and is soft and elastic, as if arising from fluid. The patient suffers no pain, until abscesses form, and the cartilages ulcerate, at which period hectic fever usually comes on, and the patient gradually sinks, unless the limb be amputated.

Symptoms.

Mr. Brodie deems this form of the disease incurable. All that can be done, is to check its progress by rest and cold lotions; and to alleviate the pain attending ulceration of the cartilages by fomentations and poultices. In the end, the limb must be sacrificed for the preservation of life; at least, until some new treatment, capable of restoring the natural texture of the synovial membrane, be discovered. From certain accounts, published of the effects of iodine, employed internally and externally, it would seem to deserve a fair trial. Mr. Buchanan, of Hull, applies the tincture to many white swellings, both in the acute and chronic stages, with surprising success, according to the statements contained in his late publication.\*

Treatment.

\* See an Essay on Diseased Joints, and the Non-union of Fracture. 8vo. Lond. 1828.



GEN. XII.

SPEC. IV.

β A. Hydar-  
thrus cartila-  
ginum.Symptoms and  
progress of the  
disease.

One species of the disease, vulgarly denominated white swelling, appears, from the researches of Mr. Brodie, to commence in the articular cartilages; and this change is found to be the primary one in a large proportion of the cases, in which the hip-joint is concerned.\* Ulceration of the cartilages of the knee is attended with one remarkable difference from inflammation of the synovial membrane; viz. in the former, the pain is at first slight, and gradually becomes very intense; which is exactly the reverse of what happens in the latter. Neither is there, for a considerable time after the disease has begun, any evident swelling, and when this does show itself, it arises from a slight degree of inflammation in the cellular membrane on the outside of the joint, and seems greater than it really is, owing to the wasting of the muscles. No fluctuation is perceptible, as where the synovial membrane is inflamed; nor is there the peculiar elasticity, which accompanies the conversion of that membrane into a thick pulpy substance. However, in a few cases, the synovial membrane is secondarily affected, and the synovia or pus may collect within the joint. If the disease proceed, abscesses generally form, the ligaments are destroyed, and the joint becomes dislocated. The editor has seen several cases, in which the head of the tibia has been drawn into the ham; and melancholy examples of the luxation of the thigh-bone from the acetabulum, in consequence of this disease in the hip, may be seen daily in the streets of every city and town of Europe.

Treatment.

In the treatment of primary ulceration of the cartilages of the joints, Mr. Brodie attaches considerable importance to keeping the part motionless. It is this disease, for which he finds caustic issues particularly useful. In the early stage, local bleeding, venesection, and the warm bath, are sometimes serviceable; but stimulating plasters are inefficacious, and friction always hurtful.

γ A. Hydar-  
thrus ossium.Symptoms and  
progress of the  
disease.

Another form of white swelling takes place so often in persons with decided marks of serofula about them, that it is generally regarded as a serofulous disease. It originates in the cancellous structure of the bones, and ulceration consequently takes place in the cartilages of the joint, and the disease then follows nearly the same course, as when it has commenced with ulceration of the cartilages. The heads of the bones of the affected joint at first become unusually vascular, and deprived of their due proportion of lime, while, at first, a transparent fluid, and afterwards a yellow cheesy substance, is deposited in their cancelli. As the caries of the bones advances, inflammation takes place in the cellular membrane on the outside of the joint. Hence, a puffy and elastic swelling in the early, and an œdematous one in the advanced stage of the disease. At length, an abscess is formed in the joint, and, making its way by ulceration through the synovial membrane, bursts externally, after causing numerous sinuses in the soft parts. In the last stage of the disease, the bones, instead of being preternaturally vascular, become less so than in the healthy state; a

\* From some researches undertaken by Mr. Aston Key, it would appear that ulceration of cartilages is preceded by the formation of a vascular substance by the synovial membrane, which substance is the organ by which the cartilaginous tissue is removed. See Med. Chir. Trans., vol. xix. — Ed.

circumstance to which Mr. Lloyd \* has imputed the exfoliations, which sometimes occur.

According to Mr. Brodie's observations, the disease is often met with in children; and is rarely seen in individuals past the age of thirty. The hip and shoulder are less liable to it than many other joints. As it is connected with a particular diathesis, it sometimes affects several joints at the same time, or recurs in others after the one originally attacked has been cured, or removed. In this form of white swelling, a degree of pain in the joint, generally not a very distressing one, precedes for some time the occurrence of swelling in the soft parts. When the cartilages ulcerate, the pain increases; but it is not severe, until an abscess has formed, and the parts over the abscess become distended and inflamed. When the abscess bursts, a thin pus, with portions of substance resembling curd, is discharged. "I conceive all such collections of matter," says Mr. Hunter, "to be of a serafulous nature: they are most common in the young subject, and seldom found in the full grown, or old. The suppuration is not proper pus, nor the swelling proper inflammation." † Sinuses then generally remain, at the bottom of which, diseased bone may be felt with a probe. In the worst cases, the patient either dies hectic, or is obliged to submit to amputation. In others, a curative process ensues; and the disease terminates either with or without anchylosis, according to the extent of the destruction of the articular surfaces. In the complicated joints of the foot and hand, the chances of recovery are found by Mr. Brodie to be even less, than in larger joints.

With respect to the treatment, the plain connection of the disease with scrofula implies that such general remedies, as are calculated to improve the state of the constitution, cannot fail to be proper. Loss of blood seems to Mr. Brodie less useful in this form of white swelling than in some others. He has also seldom known any benefit derived from blisters and liniments: issues and setons, though serviceable, he has only found so in an inferior degree. Cold lotions check the extension of the disease to the soft parts, and retard the formation of abscesses. He lays much stress on the advantages of keeping the joint perfectly quiet, or as far as it can be done, with due regard to health. Hence, he is an advocate for mechanical contrivances for this purpose; and as far as the editor can judge, this seems to be the principle chiefly aimed at by Mr. Scott in the mass of plasters, bandages, pasteboard, &c. with which he surrounds the diseased joint and limb. ‡ When abscesses are forming, fomentations and poultices are to be employed. When suppuration ceases, and a tendency to anchylosis begins, Mr. Brodie applies round the limb strips of linen, spread with soap cerate.

As for the means of improving the health, the pure air of the sea-coast; nourishing plain diet; steel medicines; mineral acids; and, in children, occasional mercurial purgatives; with the benefit

GEN. XII.

SPEC. IV.

γ A. Hydarthrus ossium.

Individuals and joints most liable to it.

Treatment of white swellings which begin in the cancelli.

\* On Scrofula, p. 123.

† On the Blood, &amp;c. p. 591.

‡ See Surgical Obs. on the Treatment of Chronic Inflammation. 8vo. Lond. 1828. The merit of first suggesting this principle of treatment the editor believes due to the late Mr. Crutwell, of Bath.

GEN. XII.

SPEC. IV.

γ A. Hydar-  
thrus ossium.Tartar emetic  
ointment;

moxa, &amp;c.

Iodine.

Treatment.

arising from being a good deal in the open air in summer, are those principally recommended.\*

Some practitioners are partial to the counter-irritation, arising from the application of tartar-emetic ointment to the integuments of the diseased joint; some prefer setons; some caustic issues; and others the moxa. But, in numerous examples, all plans seem to fail. Whether the high praises now bestowed on the iodine, as a remedy for white swellings, will be justified by general and impartial experience, time will soon determine. As our author remarked, in his last edition] no medicine acts so directly on the absorbent system as iodine; and we are informed by Dr. Gairdner, that M. Maunoir, of Geneva, has in one case, of a very decided character, and in which even amputation had been advised, after a failure of every other mean, found the use of the ointment of iodine, together with the tincture, completely succeed; so as not only to remove the tumour, but to restore as free a motion to the affected joint as was possessed by the sound knee. The dose of the tincture contained one-twelfth of a grain of iodine at its utmost. The patient was eight years of age.† [The most encouraging accounts of the effects of iodine in the cure of white-swellings, hitherto published, are those of Mr. Buchanan of Hull, who applies the tincture ‡ with a camel-hair brush to the integuments, by which it appears to be rapidly absorbed. § ]

\* See Brodie's Pathological and Surgical Obs. on the Joints. 8vo. Lond. 1822, 2d edit.

† Essay on the Effects of Iodine, &c. pp. 49. 64. 8vo. 1824.

‡ R Iodinæ ʒj Spir. Vinos. Rect. ʒiij fl. Tinctura.

§ See an Essay on a New Mode of Treatment for Diseased Joints; and the Non-union of Fracture. 8vo. Lond. 1828. Although iodine applications are frequently useful in the treatment of chronic diseases of joints, the editor does not find their power so great as some writers represent.



# CLASS III.

## HÆMATICA.

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### ORDER III.

#### EXANTHEMATICA.

##### ERUPTIVE FEVERS.

CUTANEOUS ERUPTIONS ESSENTIALLY ACCOMPANIED WITH FEVER.

THE term Exanthemata among the Greeks, from ἐξανθήω, "effloresco," "per summa erumpo," "to effloresce, or break forth on the surface," imported cutaneous efflorescences or eruptions *generally*. It has since been limited to express cutaneous eruptions *accompanied with fever*, a boundary assigned to it by Sauvages, Linnéus, Vogel, Sager, Macbride, Cullen, and various others, and this, in effect, is its general meaning in the present day. Dr. Cullen, however, in his note on Exanthemata, thinks it worth considering whether the word should not be restrained to eruptions (he does not say *febrile* eruptions) produced alone by specific contagion; "eruptiones a contagione specificâ ortæ;" while Dr. Willan has still more lately narrowed it, so as to include those eruptions only which fall within the meaning of the English term *RASH*, whether febrile or not febrile.

The two last senses of EXANTHEMATATA, or EXANTHEMATICA, are new and singular. Dr. Cullen, however, has not followed up his own suggestion into his own classification; while Dr. Willan has not always continued strictly true to his own views and definition, as I have observed in the running comment introductory to the present order in the volume of Nosology, to which the reader may turn, for a fuller examination of this subject, at his leisure.

The term, therefore, in the present work, is employed in its common and current sense, so as to include all cutaneous eruptions in which fever exists as an essential symptom; whether accompanied with or destitute of contagion; which last is a doubtful, and perhaps an inappropriate ordinal character: doubtful, because we cannot very precisely tell where to draw the line; and inappropriate, because it is a character that applies to diseases of very different kinds, and scattered over the entire classification, as dysentery and influenza, in which there is fever without cutaneous eruption; itch, and many varieties of tetter, in which there is cutaneous eruption without fever; and blennorrhœa or clap, in which there is

CLASS III.  
ORDER III.  
Origin of the  
ordinal name.  
Ordinary  
limitation of  
import.

In what sense  
proposed by  
Cullen:

how used by  
Willan.

In the present  
work employed  
in its common  
sense.

CLASS III.  
ORDER III.  
Exanthematica.

neither fever nor cutaneous eruption. The genera, included in the order, are distinguished by the nature of the eruption, as consisting of red, level, or nearly level patches of pimples filled with a thin ichorous fluid; of pimples filled with a purulent fluid; and of foul imperfectly sloughing tumours; and hence consist of the four following:—

I. ENANTHESIS.	RASH EXANTHEM.
II. EMPHYLISIS.	ICHOROUS EXANTHEM.
III. EMPYESIS.	PUSTULOUS EXANTHEM.
IV. ANTHRACIA.	CARBUNCULAR EXANTHEM.

General  
character.

Each of these, with the exception of the third, comprises several species; and all concur in evincing the existence of morbid and specific poisons in the blood, acting the part of animal ferments\*, converting the different fluids into their own nature, exciting the commotion of fever, and being eliminated on the surface, as the best and most salutary outlet to which they can be carried, by the very fever which they thus excite.

Evincing  
proofs of in-  
stinctive or re-  
medial power.

The whole is a wonderful circle of morbid and restorative action, evincing the most striking proofs of that instinctive or remedial power of nature, whose presence in every part of every living frame, whether animal or vegetable, is continually discovering itself; and which, under the general control of an infinite and omniscient Providence, is perpetually endeavouring to perfect, preserve, and repair the individual, and to multiply its species.

Illustrated.

We have many times had occasion to observe, that wherever any diseased action is taking place internally, there is a constant effort exhibited in the part, or in the system generally, to lead it to the surface, where it can do least mischief†, rather than let it spread itself on the deep-seated or vital organs, where its effects might be fatal. Mr. John Hunter was peculiarly fond of dwelling on this admirable economy of nature, and of illustrating it from the course pursued in inflammations of every kind‡; which, to obtain this beneficial end, often wind their way outwardly through a multiplicity of superincumbent organisation, instead of opening into some momentous cavity in the interior, from which it is perhaps only separated by a thin membrane. But there is no part of pathology in which this display of a final cause, of an operative intention admirably adapted to the end, is more striking, than in the order of eruptive fevers.

Eruptive fever  
a natural mean  
of curing the  
eruption.

It is by means of the fever that the disease works its own cure; for it is hereby that a general determination is made to the surface, and the morbid poison is thrown off from the system.

But if violent,  
more mis-  
chievous than  
the eruption.

But the fever may be too violent; and, from accidental circumstances, it may also be of the wrong kind: both which facts occasionally occur in inflammations, and require the art of medicine for their correction.

Hence a small  
degree of  
fever only  
necessary.

When a febrile poison, producing a cutaneous eruption, is generated or has been conveyed into the blood, a small degree of fever is sufficient to throw it upon the skin; and if it exceed the proper

\* This language must be understood only in a figurative sense. — Ed.

† See especially Class II. Ord. II. On Inflammation, vol. ii. p. 14.

‡ On Blood, Inflammation, &c. pp. 236. 450. 467.

extent, the specific virus will be multiplied, and the fever itself may become a source of real danger. It was formerly the practice to encourage the fever by cardiacs, a heated atmosphere, and a load of bed-clothes, from an idea that we hereby solicit a larger flow of morbid matter from the interior to the surface. The fact is unquestionable; for be the exanthem what it may, the skin will hence, in almost every instance, be covered with eruption. But it did not occur to the pathologists of those times, that the morbid virus was an animal ferment capable of multiplying itself by accessories: and that heat and febrile action, beyond a very low medium, are among the most powerful accessories we can communicate. And hence the advantage of the modern practice of applying cold water in scarlet-fever, and cold air in small-pox, with a view of mitigating the fever that often accompanies these diseases: for, by diminishing the febrile violence, we do not, as was formerly imagined, lock up the contagion in the interior of the system, but prevent it from forming afresh and augmenting there.

But the fever, though the natural mode of cure, may not only be too violent, but it may be also of the wrong kind. And here, again, the whole scope of professional skill is often demanded.

Some of the morbid poisons we are now adverting to have a natural tendency to excite a fever of one description, and others of another. Thus the fever of small-pox and measles is ordinarily inflammatory; that of scarlet-fever may commence with an inflammatory type, but it has a strong tendency to run into a typhous form: while that of pemphigus and plague is typhus from the beginning.

Much also, in this respect, will depend upon accidental circumstances, as the constitution of the year, and the prevailing epidemic; the constitution of the patient, his habit of life, or hereditary predisposition. For under the control of these, we sometimes see an eruptive fever, having naturally a typhous turn, restrained in its tendency; and, on the contrary, a fever with an inflammatory turn, as in small-pox or measles, converted into a malignant or a typhous. Yet the general intention, pursued by the instinctive or remedial power of nature, is one and the same: and it is the duty of the medical practitioner to watch over that intention, and co-operate with it; to moderate the natural means when in excess; to quicken them when deficient; and to correct them when deflected by accidental circumstances. \*

\* In the very beginning of acute exanthematica, congestions of different mucous membranes exist almost constantly, and, as Andral observes, it is a remarkable fact in the history of these diseases, that in each of them the congestion has a determinate situation; in scarlet fever, the mucous membrane of the pharynx; in measles, that of the air passages; and in variola, that of the stomach. (Anat. Pathol., tom. ii. p. 224.) Exanthematica are not to be regarded merely as cutaneous diseases; they are rather affections of the whole system, extending their effects to internal organs as well as the surface. In measles, as Dr. Elliotson remarks (Lancet for 1830-31, p. 393.), the mucous membrane of the nostrils, the conjunctiva, the mucous membrane of the air-passages, often down to the very air-cells; nay, occasionally the substance of the lungs and the pleura, and even the intestines, are much affected. In small-pox there is great affection of the larynx, such as frequently destroys life; a great affection also of the epigastrium; the stomach is particularly tender, and is really inflamed from the first. In scarlet fever the eyes and nose are not much affected, but the inside of the

CLASS III.  
ORDER III.  
Exanthematica.  
Error of earlier practitioners in encouraging fever.

Examples of correction in modern times.

Fever may be of the wrong kind, as well as in excess.

Different contagions are accompanied with different fevers.

Constitution of the year often produces great influence.



## GENUS I.

## ENANTHESIS.

## RASH EXANTHEM.

ERUPTION OF RED, LEVEL, OR NEARLY LEVEL PATCHES<sup>1</sup>; VARIOUSLY FIGURED: IRREGULARLY DIFFUSED; OFTEN CONFLUENT; TERMINATING IN CUTICULAR EXFOLIATIONS.

GEN. I.  
Origin of the  
generic name.

In what sense  
employed.

THE term enanthesis is derived from the Greek ἐν, "in, intra," and ἀνθήω, "floreo"—"efflorescence from within or from internal affection." Whence the term stands opposed to exanthesis, which, in the present system, constitutes a genus under the sixth class, and comprises such efflorescences as are merely superficial or cutaneous, and not necessarily connected with internal or constitutional affection. Enanthesis is here, therefore, used to express fever accompanied with rash, the latter word being employed in the broader of the two senses assigned it by Dr. Willan, as importing red, irregular, confluent patches; whether simple, as in the case of scarlet-fever; compounded of papulæ, small, acuminate elevations of the cuticle, not containing a fluid, as in the case of measles; or existing in the form of wheals, as in that of nettle-rash.

And hence enanthesis, as a genus, furnishes us with three species:—

- |                        |                |
|------------------------|----------------|
| 1. ENANTHESIS ROSALIA. | SCARLET-FEVER. |
| 2. ————— RUBEOLA.      | MEASLES.       |
| 3. ————— URTICARIA.    | NETTLE-RASH.   |

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mouth, the soft palate, the pharynx, and the tongue, suffer intensely, and sometimes in such a degree, that their condition is mainly concerned in producing death. There is sometimes sickness in this disease; an inflammation of the stomach and intestines; the mucous membrane of the alimentary canal is affected below the pharynx, so that there is tenderness in the epigastrium; and sometimes there is inflammation within the head and within the chest, as well as within the abdomen. — Ed.

SPECIES I.  
ENANTHESIS ROSALIA.  
SCARLET-FEVER.

RASH, A SCARLET FLUSH, APPEARING ABOUT THE SECOND DAY ON THE FACE, NECK, OR FAUCES; SPREADING PROGRESSIVELY OVER THE BODY; AND TERMINATING ABOUT THE SEVENTH DAY: FEVER A TYPHUS.

THIS is the SCARLATINA of most modern writers, a barbarous and unclassical term, that has unaccountably crept into the nomenclature of medicine upon the proscription of the original and more classical name of ROSALIA, which it is the author's endeavour to restore.

Upon this subject, I must refer the reader to the running comment in the volume of Nosology, where he will find it explained at full length. At present it is sufficient to observe that, although, since the introduction of scarlatina, its use has been generally tolerated, no classical scholar has been satisfied with the term, while several have peremptorily refused to adopt it.

Dr. Morton had so mortal an aversion to the term, that he preferred the error of blending scarlet-fever with measles, and of arranging the varieties of the two diseases under the common generic name of MORBILLI to employing *scarlatina*. De Haen appears to have had nearly as great a dislike to it.\* Dr. Huxham, for a long time, eluded the term by using FEBRIS MILIARIS RUBRA, or MALIGNA, for some of the varieties of scarlatina, and FEBRIS ANGINOSA MILIARIS for others: Dr. Heberden has still more lately exchanged it for FEBRIS RUBRA; and Thierry, in direct allusion to the original name, calls it expressly *mal de la rosa*†; Ploucquet employs PORPHYRISMA, as Borsiero or Burserius had made use of *purpura* before him; Dr. Willan continues scarlatina, but thinks it necessary to apologise for its continuance. "The denomination scarlatina," says he, "was first applied to this disease by British writers: however offensive the term may be to a classical ear, it cannot well be displaced, having obtained admission into all the systems of nosology. Another age will correct and refine the language now used in subjects untouched by the masters of physic."‡ It is singular that Swediaur, with all his love for Greek terms, and the determination with which he set out to give every genus a Greek name, should, while ranking this disease as a genus, still retain the objectionable term.§

It will not be the present author's fault if the correction so generally called for in the case before us should be postponed to another age, or the error complained of be chargeable on future nosologists.

GEN. I.

SPEC. I.

The scarlatina of most modern writers.

The term generally disapproved of.

By Morton:

by de Haen.

Evaded by Huxham,

and Heberden.

The porphyrisma of

Ploucquet:

purpura of

Burserius.

Exchanged for

*mal de la Rosa*.

Apologised for by Willan.

Swediaur.

\* Med. Contin., tom. i. cap. vii.

† Recueil Periodique, vol. ii. p. 337.

‡ Cutaneous Diseases, p. 253.

§ Nov. Nosol. Meth., syst. i. 164.

GEN. I.  
SPEC. I.  
Erythrasma  
rosalia.

The term scarlatina derived from the Levant.

Scarlet-fever, measles, and small-pox introduced from the East : comparatively of modern date.

Not to be found in the Greeks writings. Vernacular names first applied at Cordova.

At first used indiscriminately or with confusion.

In saying that "the denomination scarlatina was first applied to this disease by British writers," Dr. Willan can only mean that it was by British writers first applied *technically*, and introduced, as a professional term, into the Medical Vocabulary: for the term itself is Italian, and was long, as a vernacular name, in use on the shores of the Levant before it was imported into our own country.

Scarlet-fever, measles, and small-pox seem, indeed, equally to have reached us from the East, and to be diseases of comparatively modern origin. [It has been suspected that the first of these contagions came originally from Africa. In Europe, it first broke out in a severe form in Spain in 1610, and it raged at Naples in 1618. In 1689 it appeared in London, and, in 1735, it spread gradually, but slowly, over the American continent.] \* Some writers fancy that they can distinguish a few traces of one or two of the foregoing disorders in the works of Paulus Ægina, and other Greek physicians; but the passages referred to are too general and imprecise to establish any such conclusion. No such diseases are described; and, had they existed at the time, a few determinate and scattered hints which may apply to other diseases as well, could not have been the whole to which they would have given rise. The names, indeed, by which they were at first known, as VARIOLA, RUBEOLA, or rather RUBIOLA, ROSALIA, and even MORBILLI, evidently point to the school of Cordova, and lead us to the Arabian or Saracenic physicians for our first account of them. And it is not to be wondered at that, in such accounts, we should meet with some degree of confusion and many inaccuracies, and should perceive that, as measles were for a long time confounded with small-pox, so scarlet-fever was with measles; whence it is difficult, in one or two instances, to determine what is the precise species of disease referred to by Avicenna, Ali Abbas, and Rhazes: for, while they seem to allude to the scarlet-fever, we are not sure that they mean it.

On this account it is that rosalia, rossalia, and rubeola, alike derived from the colour of the efflorescence, are, among the earliest writers who used these terms, applied equally to scarlet-fever and measles; and when some distinction was at length attempted by the introduction of the word *morbillo*, or morbilli, in like manner a Spanish or Cordovan diminutive, the line of distinction not being accurately drawn or adhered to, this term was also erroneously applied to both; and the confusion became more intricate. So *rougeole*, which among the French writers is the common name for measles, imported also, at one time, scarlet-fever: and this so generally, that, when in process of time physicians became sensible of the difference between the two maladies, and it was necessary to establish distinct terms, we learn from Chevenau, that, among the Marsellois, *rougeole* was at first appropriated to the scarlet-fever, while the measles were denominated *senapion*.† And, in

\* See Gregory's Elements of Physic, p. 126. ed. 2. Prosper Martianus, an Italian physician, who gave a description of the disease, as it prevailed in Rome about the middle of the seventeenth century, is said to be, if not the first, amongst the earliest writers on scarlatina. — Ed.

† Observ. Med., p. 454. In 1778, Dr. Withering published an Essay on Scarlet Fever, a second edition of which appeared in 1793; to this author Dr. Bateman assigns the merit of having first accurately described scarlatina as a distinct disease. But Withering seems to have been anticipated by Plenciz, who published in 1776. — Ed.



this manner, both diseases continued in every country, till within the last half century, to be regarded and even treated of with but little discrimination; sometimes as different species, sometimes as a common species, and sometimes as varieties of a common species. And hence, even in our own country, we find them united in several of their varieties, not only in the writings of Dr. Morton, but still more lately in those of Sir William Watson.

Since, however, they have been considered, and most correctly, as different diseases, another extreme has been run into; for rosalia itself has been broken into subdivisions that are in no respect worth contemplating separately; one or two of which, as we shall perceive presently, have themselves been elevated by some pathologists into the rank of distinct maladies. For all the purposes of perspicuity, it will be sufficient to study it under the two following varieties:—

α Simplex.  
Simple scarlet-fever.

Fever moderate, and terminating with the rash; little prostration of strength; slightly contagious.

β Paristhmitica.  
Scarlet-fever with sore-throat.

Fever severe; throat ulcerated; rash later in its appearance, and less extensive; often changing to a livid hue: highly contagious.

Children are by far the most frequent subjects of both these varieties, and communicate the disease readily to each other. They are both occasionally epidemic, and in this form occur most usually at the close of the summer. “The scarlet-fever,” observes Sir Gilbert Blane, “very rarely affects adults. The great majority are under puberty; some between twenty and thirty; a few between thirty and forty. Only one case above forty has occurred to my own observation.”\* Public schools may be one cause of the greater

GEN. I.  
SPEC. I.  
Enanthésis  
rosalia.

Rosalia sometimes considered under unnecessary subdivisions.

α E. Rosalia  
simplex.  
Description.

\* Select Dissertations, &c. p. 213. 8vo. Lond. 1822. The late Earl of Exmouth died of scarlet-fever at the age of forty-nine; and Mr. Squibb, the auctioneer, in Saville Row, has also very recently fallen a victim to the same disease, at the age of forty-five. Both these cases happened in the autumn of 1833. In order to determine the relative frequency of scarlet-fever in the sexes at different ages, Dr. Tweedie selected from the register of patients admitted into the London Fever Hospital 200 cases, in the order of their admission. The following table gives the general results:—

Age.		Males.		Females.		Total.
From	6 to 10 - -	- 7 -	-	- 8 -	-	- 15
	10 to 15 - -	- 8 -	-	- 15 -	-	- 23
	15 to 20 - -	- 17 -	-	- 40 -	-	- 57
	20 to 25 - -	- 14 -	-	- 39 -	-	- 53
	25 to 30 - -	- 8 -	-	- 21 -	-	- 29
	30 to 35 - -	- 6 -	-	- 10 -	-	- 16
	35 to 40 - -	- 1 -	-	- 2 -	-	- 3
	40 - -	- 1 -	-	- 0 -	-	- 1
	42 - -	- 0 -	-	- 1 -	-	- 1
	48 - -	- 0 -	-	- 1 -	-	- 1
	57 - -	- 0 -	-	- 1 -	-	- 1
		62		138		200

As Dr. Tweedie explains, however, the table is not complete, the number of children under six years of age, who take the disease, not being ascertained, in

GEN. I.  
SPEC. I.  
α E. Rosalia  
simplex.

frequency of the disease in our own day. The anticipating symptoms are those of fever, [restlessness, anxiety, depression of spirits, chilliness, pain in the head, soon followed by heat, thirst and sickness.] About the second day from the beginning of these complaints, in the FIRST VARIETY, numerous specks or minute patches of a vivid red colour appear about the face and neck; and, within twenty-four hours, a like efflorescence is diffused over the surface of the body, and occasionally even tinges the inside of the lips, cheeks, palate, and fauces. Sometimes the efflorescence is continuous and universal; but, more generally, on the trunk of the body there are intervals of a natural hue between the patches, with papulous dots scattered over them.\* There is an exacerbation in the evening, at which time the rash is most florid, as it is least so in the morning. In some cases that have occurred to me, it has only shown itself in the day-time in the form of scattered patches, or even specks, though the skin has been very generally roughened and rendered anserine, from a more than usual determination of blood to the cutaneous papillæ. Yet, even in these cases, the pathognomonic efflorescence has appeared in a later or less degree in the evening. On the fourth day, the disease is at its height. On the fifth, the eruption begins to decline; the interstices widen, and the florid hue fades. On the sixth, the rash is very indistinct, and is wholly gone on the seventh. On the eighth and ninth, the cuticle is seen peeling off.

The pulse, during the eruptive stage, is usually very quick and feeble; the tongue is covered with a whitish fur in the middle, often interspersed with scarlet points from an elongation of the turgid papillæ; while the sides of the tongue are of a dark red. The face is considerably tumefied; and there is great anxiety and restlessness, with a sense of tingling or itching in the skin, and sometimes at night a slight delirium. Though the fever is in most cases moderate, it sometimes runs high, but in the present variety is rarely alarming. In many cases, indeed, the eruption appears and passes through its course with little inconvenience of any kind from fever, itching, or restlessness.

Symptoms  
seldom alarm-  
ing in this  
variety.

consequence of no children under that age being received into the above institution. The list shows, however, the great majority of females at every age, and (putting out of consideration cases in children under six years of age) proves, in opposition to Sir Gilbert Blane's statement, that the majority of those who are seized with scarlatina are not under puberty. For if the young children under six years of age be taken into the calculation, no doubt Sir Gilbert Blane's representation would be found to be correct. Dr. Tweedie's list, however, is exceedingly instructive, and certainly exhibits a much larger proportion of cases in individuals past puberty than would have been expected. — Ed.

\* When the eruption has begun a short time, there generally can be no doubt of its true nature. Minute red points appear upon the face and neck; they soon become innumerable, run together, and, within twenty-four hours, form continuous patches over the trunk and extremities. The colour is a bright scarlet, not seen in measles, nor in any other disease, and most vivid at the flexures of the joints and in the loins. The skin, cursorily examined, seems smooth; but if it be inspected with care, it will be found to present minute asperities, like those of the cutis anserina. The small points of the skin become a little inflamed, so that the roughness depending upon them has not the coarseness felt in the measles. See Elliotson's Clinical Lectures in *Lancet* for 1830-31, p. 393. — Ed.

Sauvages, and Cullen, who has copied Sauvages' definition, represent the efflorescence as not taking place till the fourth day after the attack. Dr. Heberden, on the contrary, fixes it on the first or second day\*: Dr. Willan, "usually on the second day." This last is the ordinary period, and as such I have entered it in the definition. It is obvious, however, that the interval observes some variety; though not a little of the apparent difference may be ascribed to the different stages of the disease in which a physician is first consulted; and his inability of fixing very accurately the commencement of the febrile incursion. Dr. Plenciz, on this account, pursues a middle course, and avails himself of an allowable latitude; "About the second or third day," says he, "and sometimes later, the red, unequal eruption, makes its appearance."† Generally speaking, the more violent the attack the sooner the efflorescence is thrown forth: and hence, during a severe and extensive range in Newcastle-upon-Tyne in 1778, Dr. Clarke tells us that, where it began with great vehemence, the eruption was often observed on the first day; but commonly it did not make its appearance till the second or third, and sometimes not till the fourth.

We have seen that rosalia has been often confounded with measles, to which, indeed, it bears, in many cases, no small degree of resemblance. The following distinctive characters, therefore, may be of use to prevent a mistake.

The efflorescence of the measles does not appear till two days later than that of scarlet-fever; and, though it consists at first of broad patches amidst the general suffusion of red, stigmatised with interspersed dots, the dots are of a deeper colour, and are never lost in the efflorescence. It commences, moreover, with symptoms of a severe catarrh; [the eyes have a watery, tender appearance; the patient sneezes and coughs; the face is flushed, and the head very heavy. Frequently, however, the cough does not come on during the first three or four days.] Such symptoms do not belong to scarlet-fever; and the measles are without that restlessness, anxiety, and depression of spirits, by which the latter is peculiarly distinguished.

[In the early period of scarlet-fever, there is this difference between it and small-pox: in the last, there is frequently intense pain in the loins, and great tenderness of the epigastrium; symptoms not appertaining to scarlet-fever. If a person, therefore, be taken ill suddenly, and an eruptive disease be suspected, and yet there is no violent pain in the loins, and no extreme tenderness of the stomach, there is no reason to apprehend small-pox.‡]

From the great determination of blood to the cutaneous vessels, an effusion of coagulable lymph sometimes takes place in the papulous elevations, which is not entirely absorbed by the time the efflorescence subsides; and hence there is occasionally, though not often, an appearance of vesicles, sometimes nearly empty, and sometimes nearly filled with a pellucid fluid, according as the effused serum has been more or less carried off. I have seen them exhibit the semblance of minute chicken-pox; and they have been thus

GEN. I.  
SPEC. I.  
α E. Rosalia  
simplex.  
Period of  
efflorescence  
variously fixed.

The more  
violent the  
attack the  
earlier the  
efflorescence.

Character of  
scarlet-fever  
compared with  
that of  
measles.

Compared with  
small-pox.

Sometimes  
accompanied  
with a vesicular  
eruption.

\* Med. Trans., vol. iii. p. 397.

† M. A. Plenciz, Med. Vindom. Tractatus de Scarlatinâ. 1776.

‡ See Elliotson's Clinical Lectures, in Lancet for 1830-31, p. 392.



GEN. I.

SPEC. I.

α E. Rosalia  
implex.

Explanation.

Called by  
Sauvages, but  
incorrectly,  
scarlatina  
variolodes.Anomalous  
protraction of  
interval in  
some cases  
between expo-  
sure to attack  
and appearance  
of eruption.And hence such  
cases not sup-  
posed by some  
to be genuine  
rosalia.Similar retard-  
ation in other  
complaints.β E. Rosalia  
paristhmica.S. septorrhæpes  
of Swediaur.

noticed by many writers, particularly by Dr. Rush \*, Dr. Withering, and Dr. Plenciz: the last of whom compares them to white miliary spots; and expressly states, that he observed them on the sixth or seventh day from the commencement of the eruption, chiefly in the hands and feet: in other words, at the time when the turgid cuticular vessels had contracted, and the efflorescence was on the decline. On examination, he farther tells us, that they appeared to be nothing more than cuticular elevations filled with minute bubbles of air. More correctly, perhaps, they were quite empty, the effused serum being carried off by absorption.† M. de Sauvages has made this form of the disease a distinct species, as scarlet-fever, with him, constitutes a distinct genus‡; and as the effused fluid, when its finer parts are first absorbed, occasionally appears thick and opaque, and has some resemblance to minute pustules of small-pox, he has distinguished it by the name of *scarlatina variolodes*.

There is another peculiarity which the disease sometimes exhibits, and to which the attention of the profession has of late been particularly called by Dr. Maton.§ The disorder, in the case alluded to, showed itself in a large family, and evinced all the common symptoms of a mild rosalia; and, like rosalia, it proved itself contagious, for every member of the family, elder or younger, to the number of eight, received it in succession. But its singularity was the great length of interval between the time of exposure to the attack in those who sickened nearest to each other in the order of its descent, and any sensible effect on the system; which, instead of being, as in ordinary cases, four, five, or six days, was, upon an average, not less than twenty-one days; varying, in different individuals, from seventeen to twenty-six days. And on this account, in conjunction with one or two other signs of minor importance, Dr. Maton, though he at first regarded the disease as a modification of rosalia, was afterwards inclined to believe it a new complaint requiring a distinct designation. Yet, if we reflect how often a similar, or nearly similar-retardation takes place in particular families after inoculation from either the small-pox or cow-pox, in which we have a much more definite period to calculate from, we shall rather, perhaps, be justified in adopting Dr. Maton's first view of the disorder, and contemplating it as a rosalia modified by a peculiar family temperament, or some other accidental control. In the paristhmitic variety, or that accompanied with sore throat, the eruption is always later in its appearance than in the simple form; in a case I shall have to quote from Dr. Perceval, not less than eight days later; though I have never known it protracted to so late a period as in the modification noticed by Dr. Maton, where the febrile symptoms have taken place as early as usual from the time of exposure. The efflorescence in the measles, however, sometimes evinces a like procrastination, and has appeared as late as the twenty-first day.||

In the second or PARISTHMITIC VARIETY, the morbid virus is chiefly directed to the fauces, instead of to the surface of the skin generally. It is the *scarlatina Septorrhæpes* of Swediaur.

\* Medical Enquiries and Observations, p. 123.

† Class III. Ord. Exanth. Gen. VIII.

‡ Tractat. de Scarlatinâ.

§ Med. Trans., vol. v. art. xi.

|| Buchholz Tode Med. Chir. Bibl., band i. p. 86.

And hence, in some cases, the cutaneous efflorescence is very slight, and consists of a few scattered patches of flush, instead of a diffused sheet. The rash, moreover, appears later by a day or two, sometimes even a week; probably delayed by the same cause that interferes with its general spread over the skin, being the local irritation about the throat. [It comes and goes, and when the disease inclines to terminate, the termination is not complete at once; but the desquamations will sometimes continue for weeks.] If the throat be minutely inspected, this last symptom will be found to commence very early; for though no complaint is usually made of uneasiness in the throat previously to the febrile symptoms, yet, if it be closely examined, the *velum pendulum palati* will be found redder than natural, and sometimes the uvula will appear to be a little inflamed, the pulse being at this time only slightly disturbed, or hurried rather than feverish.\* Dr. Willan asserts, that this takes place as one of the first effects of the contagion, and describes it, as “a dark-red line extending along the *velum pendulum palati* and lower part of the uvula.”† Gradually, however, the tonsils become enlarged, and exhibit a florid redness on their surface, which extends over the whole range of the palate, its *velum pendulum*, the uvula, and the posterior part of the fauces; the tongue assumes a high red colour‡, the papillæ over its entire surface are greatly elongated, and very tender to the touch; there is often a considerable stiffness in the muscles of the neck and lower jaw; the throat is rough and straitened from the second day of the eruption; and deglutition is performed with difficulty.

All the common symptoms are more violent; there is more shivering at first, and afterwards more intense heat of the body §, the temperature of which rises to  $107^{\circ}$ ,  $108^{\circ}$ , or  $111^{\circ}$ ; the fever is severer, accompanied with nausea, vomiting of bile, and languor; considerable inquietude and anxiety, headach, and delirium; evidently proving a copious determination to the head, as well as to the fauces. The pulse is feeble, the respiration quick; the throat becomes excoriated, and throws off a large quantity of minute superficial whitish sloughs, which intermix with the increased flow of viscid mucus, and augment the difficulty of swallowing. The sloughs generally separate about the fifth or sixth day, or at the decline of the efflorescence; but sometimes they remain a day or two longer.

This is the ordinary course; but, in many cases, the symptoms run still higher; and the disease is alarmingly dangerous from its irruption. The pulse is small, indistinct, and irregular from the first; there is a stupid, heavy coma, or violent delirium, with deafness; the ulcerations in the throat are deeper and broader, and

GEN. I.  
SPEC. I.  
β E. Rosalia  
paristhmica.  
Description.

All the symptoms violent.

And sometimes highly dangerous from the first.

\* Dr. Sims, *Memoirs of the Med. Soc. of Lond.*, vol. i. p. 394.

† *Cutaneous Diseases*. loc. cit., p. 269.

‡ In the mildest form of the disease the tongue is red; but if there be much inflammation of the mouth, the tongue is not only red, as if the mucus upon it were sprinkled with grains of Cayenne pepper, but the papillæ are so elongated as well as red, that they project considerably through the mucus. (See Elliotson's *Clinical Lectures*, op. cit.) “The disease attacks the interior of the mouth and fauces, and it even affects the conjunctiva.” Id. in *Med. Gaz.* for 1833, p. 101. — Ed.

§ Even in the mild form of the disease, where the throat is scarcely affected, the heat is very intense. Elliotson, op. cit. — Ed.

GEN. I.  
SPEC. I.  
β E. Rosalia  
paristhmica.

Resemblance  
to malignant  
paristhmitis or  
cynanche ;  
and is the  
cynanche  
maligna of  
Cullen :

who has still a  
scarlatina  
cynanchica, and  
hence the same  
disease twice  
over, or differ-  
ing only in  
degree.

Cullen's divi-  
sion supported  
by Withering.

His distinctive  
characters :

opposed by the  
remarks of  
others ;

covered with dark instead of with whitish sloughs ; the tongue is lined with a black, chappy crust, and is exquisitely tender ; the breath is fetid ; the rash, extensive from the commencement, assumes a livid hue, with intermixed patches of ghastly paleness ; and death ensues shortly after the seventh day, sometimes on the sixth.

The affection of the throat, in this last and most virulent attack, bears so near an approach to the malignant paristhmitis, and its peculiar symptoms commence so early, that some pathologists of great authority, and particularly Dr. Cullen and Dr. Withering, have regarded it rather as a variety of paristhmitis or cynanche than of rosalia, whence, in Dr. Cullen's Synopsis, it occurs under the designation of *cynanche maligna*. But, as the scarlet or crimson eruption must be contemplated as a pathognomonic symptom, this is to give us two distinct diseases, with the same essential signs ; and Dr. Cullen has done this ; for, while he places this most virulent form of rosalia under his genus cynanche, he continues it, in the less virulent form under which we have just described it, as a subdivision of his genus scarlatina. The distinction, however, is altogether unnecessary, and leads to no advantage, either pathological or practical. With the exception of a higher degree of danger in the one than the other, from the fever assuming the character of a more malignant typhus, both forms of the disease are the same ; they are equally produced by a specific virus ; equally contagious, and at times epidemic ; accompanied with a similar rash ; demand a like mode of treatment ; and, even, according to Dr. Cullen's own admission, so frequently run into each other as to be extremely difficult of discrimination. In consequence of which, few later writers have allowed any such distinction whatever. De Haen, therefore, had reason to say, as he does, apparently in reference to Dr. Cullen's arrangement, that different and improper names have been affixed to scarlet-fever by different writers ; but that varieties in climate or constitution produce the distinctions under which it has been described.

Dr. Withering, however, who was contemporary with Dr. Cullen, embraced and strenuously supported his view ; contending that, in scarlet-fever with sore throat, the fever is inflammatory, and, in sore throat with scarlet-fever, it is putrid. Yet, in describing the treatment of this inflammatory fever, he seems to have lost sight of his critical characteristic ; for, he tells us, that its nature is debilitating or sedative rather than tonic ; and condemns both purging and bleeding, as the pulse will not allow of these evacuations.

In endeavouring still further to lay down the distinctive characters of the two, he observes, after Dr. Fothergill, that the *angina gangrænsa* (sore throat with scarlet-rash) usually commences in the winter or the spring, and chiefly attacks persons of delicate habits, as women and children ; while the *scarlatina anginosa* (scarlet-rash with sore throat), on the contrary, usually commences in the summer or autumn, and commonly fastens upon the vigorous and robust. The scarlet-rash, however, of Newcastle-upon-Tyne in 1778, seems to have reversed this rule in its most essential point ; for Dr. Clarke, to whom I have just referred, and who has given a very minute and interesting history of this epidemy, tells



us, that it made its first appearance in June, extending from Newcastle over many towns and villages in the neighbourhood; that it was most frequent in August, September, and October, declining about December; and that it raged chiefly among children and young persons, although a few adults exposed to the contagion did not escape.\* Dr. Clarke, therefore, concludes, that both these diseases proceed from the same specific contagion, and ought rather to be considered as distinct forms of the same exanthem, than as distinct affections. It is accurately, also, observed by the same writer, that the epidemic of 1748, which Dr. Fothergill has so ably described under the name of putrid sore throat, is essentially the same as that noticed by Dr. Cotton in his letter to Dr. Mead, and which he then denominated scarlet-fever, from an objection to any alteration of the name in common use.

GEN. I.  
SPEC. I.  
β E. Rosalia  
paristhmica.

especially those  
of Clarke,

The subject ought not to be closed without adding the following note from Dr. Perceval's manuscript comment on the author's volume of Nosology, already noticed on many occasions. It adds a high authority to the present arrangement of this form of the disease; and contains one or two remarks, which very agreeably display the observant tenor of the writer's mind.

and Perceval  
of Dublin.

"*Cynanche tonsillaris* and *maligna* I consider with you as a species of rosalia. All have been produced by the same specific contagion, which in one instance was imported here (Dublin) from England in a Pandora's box, containing plumed soldiers which had served to beguile the convalescent hours of a young family, and were sent by them as a present to their quondam playmates in this capital. We have had no severe visitation of rosalia in this place for upwards of ten years. In some instances, besides, I have traced the progress of contagion from England, and believe it loses something of its ferocity by the way. Do you think it comes from the Continent? A remarkable case occurred to me of *rosalia paristhmica*, characterised most distinctly with symptoms of what is called *cynanche maligna*. This, with sunk pulse, great prostration of strength, and haggard countenance, ran a course of *seven* days without eruption; during which time, it was treated with wine and bark, which removed the affection of the throat. On the *eighth* day, after a rigor, a fever supervened of rather an inflammatory type, with a rosalia eruption. After proper evacuations, the patient recovered."

The contagion  
has passed into  
Ireland from  
England.

That rosalia, under every form, is contagious, and sometimes epidemic, is now admitted without a question; and for the later appearance of the efflorescence in the paristhmitic, than in the simple variety, I have endeavoured to account. But, whether some countries are more disposed to favour its appearance in the form of an epidemic, than others, and particularly, whether under this form it be more common to England than to Ireland, as hinted at by Dr. Perceval, I have no data to determine.

There are three modes by which this, or indeed any other disorder, may become epidemic, using the epithet in its general sense, as importing a disease, of whatever sort, that contaminates the atmosphere of a district or neighbourhood. It may proceed from a specific miasm, generated from local or accidental circum-

Three ways in  
which a disease  
may become  
epidemic:  
from specific  
miasm gener-

\* Observations on Fevers, especially those of the continued type, and on the Scarlet Fever attended with ulcerated sore throat, &c. 8vo. 1779.

## GEN. I.

## SPEC. I.

§ E. Rosalia  
paristhinitia.  
ated in the at-  
mosphere; or  
communicated  
to the atmo-  
sphere from the  
diseased;  
or from a tem-  
perament of the  
atmosphere  
predisposing to  
a general pro-  
duction of the  
disease.  
Both the last  
perhaps operate  
in scarlet-fever.

Hence but  
slightly infec-  
tious in a  
sound atmo-  
sphere.

Remark appli-  
cable to all the  
exanthems.

Hence the rea-  
son why scarlet-  
fever is more  
common in  
some periods  
than in others.

stances in the atmosphere itself, as in the miasm of intermittent and often of remittent fevers; from a like miasm generated in the body of a sick individual, and communicated to the atmosphere, as in typhus; or from a peculiar temperament in the atmosphere, predisposing the entire population that inhale it to a common morbid affection. Of any specific miasm originating in the atmosphere, and producing rosalia, we have no proof whatever: but we have abundant proof of its issuing from the bodies of those who are sufferers under it\*; and, if I mistake not, of a peculiar temperament or constitution of the atmosphere in a particular district or season, that predisposes to its general production; for it often becomes common to many families so simultaneously, that they have had no power of communicating it directly or indirectly to each other. And hence, however it may be favoured by external concurrent circumstances, we have good reason for believing, that the miasm is always ingenerated; and that the disease, when communicated, is always by specific contagion.

We may hence account for its being in a pure and healthy, or unpredisposing atmosphere but slightly infectious: for, in treating of the laws of febrile miasm, which, under different circumstances, originates both within and without the living body, we had occasion to observe that, when generated in the former manner, it appears to be less volatile than when in the latter, and less readily impregnates a periphery of pure air; whence the infection of typhus, which is commonly derived from this source, may be more easily avoided than that of intermittents or even remittents. The miasms of all the exanthems seem subject to the same law, as they all probably issue from a specific affection of the living body; and hence all of them are comparatively confined in the range of their actions, though some radiate their influence to a much greater distance than others, and are not so soon dissolved or decomposed.

We may hence, also, see why the contagion of rosalia is received much more readily at some periods than at others. Nothing is more common than for a sporadic case of rosalia to occur in a family without communicating itself to the surrounding children, although no pains may have been taken to keep them separate; while, a few months afterwards, it may possibly be received from a neighbour's house, merely by an accidental visit for a few minutes. In the one case, there was no predisposition in the habit to receive the complaint; in the other, the altered state of the atmosphere has, perhaps, produced such a predisposition in a very

\* It is not exactly known how long a person is capable of communicating the contagion after he has had the disease; perhaps, according to Dr. Elliotson, not longer than two or three weeks, unless desquamation of the cuticle proceed; and then the exfoliations appear to be so impregnated with the poisonous secretion of the skin, that they may give the disease as long as they continue to be formed. How long they may retain the infection, after separation, seems uncertain. The contagion of scarlet-fever often continues very long in a house or hospital into which a case has been admitted. Thus, Dr. Elliotson mentions a patient with scarlet-fever, who was admitted into a particular ward, and, for nearly two years afterwards, all the children and young men placed in the same ward took the fever, though the ward had been thoroughly whitewashed and cleaned. (See *Lancet* for 1830-31, pp. 392-394.) The fact communicated to our author by Dr. Perceval, of the transmission of the contagion from England to Ireland in a box of toys, exemplifies its tendency to adhere a good while to articles which have been handled or worn by patients.—*Ed.*

high degree, and prepared the way for the disease to become a very general epidemic.\*

What this peculiar state of the atmosphere is has not yet been very accurately ascertained. It does not seem to depend altogether upon the season; though, commonly speaking, rosalia is more frequent towards the close of the summer, the common harvest-time of all debilitating diseases; and we also perceive that it is usually checked, at all periods, by a cold, dry, and bracing air, and hence is less frequent in the winter. But, with these exceptions, it has been found to range as an epidemic nearly equally from February to November, and sometimes through the whole of this term without ceasing; or only slackening its career when a keen dry breeze has sprung up from the north or the east.

We see, also, another peculiarity in this disease, and that is in its ordinary limitation to children: and we see this character accompany it equally, whether the disease be sporadic or epidemic. Or, in other words, we behold the predisposing state of the atmosphere observing the same restriction as the disease itself when it operates independently of any such predisposition. Adults, indeed, do not entirely escape, but their attacks are rare, and, for the most part, less violent.†

The remote cause of rosalia, then, is a specific virus, or a specific miasm generated in the living body. Of its occasional or exciting causes, separate from the predisponents just adverted to, we know nothing. It has sometimes seemed to follow a cold, and, at others, a surfeit of the stomach: but, as these are perpetually taking place without producing such effect, and as rosalia has often occurred where nothing of the kind could be traced, we can lay very little stress upon such casualties.

All exantheis and nearly all fevers produce an influence on the system that renders it less susceptible of the same complaint for a certain period of time afterwards: yet the period varies, from the plague, which exempts but for a few weeks, to the small-pox and measles, which usually extend the exemption to a term equal to that of a man's life; in consequence of which these disorders, except in a few anomalous cases, never appear but once in the same individual. Scarlet-fever seems to hold a middle range. It renders the system far less susceptible, and, perhaps, for several years; but the influence, in many individuals, wears off by degrees, and does not protect the whole of a man's subsequent life. Yet, as rosalia is a disease of children and young subjects rather than of others, it is not often that persons suffer from it a second time, though examples of such a recurrence are occasionally to be met with.‡

\* Independently of atmospheric influence, there are constitutional peculiarities which render some individuals insusceptible of the contagion of scarlet-fever. Many persons are in this state, not merely adults, but children; and, though much exposed to the disease, never catch it. Scarlet-fever is not, by any means, so unfailing a visiter, either of children or adults, once in their lives, as the measles and small-pox. — Ed.

† This is contrary to the result of the editor's observations, which coincide with the statement made by Dr. Tweedie: — "It has been generally observed," says he, "that scarlatina proves more severe to adults than to children; and that when it attacks pregnant or puerperal women, it is often fatal." — Ed.

‡ Dr. Elliotson believes, that its recurrence in the same person is more frequent than that of small-pox or measles. In two thousand cases, however, Dr. Willan never knew it take place in the same individual a second time. The

GEN. I.

SPEC. I.

β E. Rosalia paristhmica.

The nature of the predisposing state of the atmosphere unknown.

Peculiarities belonging to it.

General inference.

Influence of exantheis on the animal frame in rendering it less susceptible of the same.

The degree of influence differs in different diseases.

Its power in scarlet-fever.



GEN. I.

SPEC. I.

§ E. Rosalia  
paristhmica.Alleged pro-  
phylactic power  
of belladonna.Debilitating  
effects of  
scarlet-fever.Particular  
tendency to  
dropsy.Progress of the  
hydropic sequel.

[Hahnemann is well known to be an admirer of what is termed *homœopathia*, according to which doctrine diseases should be opposed by remedies, the effects of which are similar to the diseases for which they are given. Having observed that small doses of belladonna produced heat and dryness in the throat, and cutaneous affections, he conceived that belladonna might prove a preservative against scarlatina. About ten years after this suggestion had been made, Berndt put it to the test of experience in an epidemic scarlatina that prevailed in Custring in 1818 and 1819, and, out of 195 children who were freely exposed to the infection after being put under the influence of belladonna, only 14 took the disease. It would appear likewise, from the statements of Dr. Dusterberg, that belladonna has the power of rendering the constitution, for a time, insusceptible of the contagion of rosalia. During the epidemic prevalence of this disorder at Gütersloh in 1820, he gave daily to such children as had not been attacked from ten to twenty drops of a solution of three grains of extract of belladonna in three drachms of canella water; and he assures us that none of the children, who had continued this medicine a week, were attacked with rosalia, though continually exposed to its contagion. It is also stated that every child that did not take belladonna, and was exposed to the contagion, had scarlet-fever.\* Whitewashing, cleanliness, free ventilation, and the use of the chlorides, should never be omitted in dwellings where scarlet-fever has prevailed. The linen of the sick should always be put, as soon as removed, into water containing the chloride of soda or lime.]

Rosalia is at all times a disease of debility; it prostrates both the body and the mind, but it has, in many cases, a peculiar tendency to weaken the absorbent system, and incapacitate it for carrying off the fluids that are exhaled into the internal cavities of the body, and hence to produce dropsy. This calamitous sequel usually creeps on insidiously and without suspicion, and does not distinctly show itself till the twelfth or fourteenth day, and often considerably later, when the patient and his friends are flattering themselves that all danger is over. It commences with a peevishness, and a feeling of drowsiness and increased weakness and languor: the face is found to swell, and the urine to decrease in quantity, and to assume a somewhat bloody appearance, like the washings of flesh. The leuco-phlegmacy of the face extends gradually to the hands, feet, abdomen, and scrotum, till the whole body becomes puffed up. "I have known these swellings," says Dr. Perceval, "to attack all the cavities, the ventricles of the brain not excepted, and in one instance fatally, upon an eruptive affection so slight as hardly to be noticed. The child was not confined, but went out, and was exposed to air.†

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extreme of infancy is least liable to rosalia, as well as measles. See *Lancet* for 1830-31, p. 392; and *Med. Gaz.* for 1833, p. 100. — Ed.

\* Hufeland's *Journ. der Practischer Heilkunde*. 1822.

† If rosalia be severe, there may ensue discharges from the meatus auditorius, sore ears, suppurations in the parotids, and absorbent glands of the neck; pulmonary disease, and diarrhœa; or the fever may be followed by chronic pustular diseases of the skin, called *rupia* and *ecthyma*, but which, as Dr. Elliotson observes, are much more common after small-pox. After rosalia simplex, there is often a tendency to anasarca, which usually shows itself at the end of the second

This last hint should not be dropped in vain ; for the torpitude produced on the mouths of the absorbents by a sudden or injudicious exposure to cold air, on recovering from rosalia, is one of the most common causes of this lamentable result : and hence we see, also, why it should be more common in winter than in summer, and in children than in adults, from the greater delicacy of their age.\* Dr. Withering confirms the instance just offered by Dr. Perceval, that it is occasionally to be found after the mildest form of the disease ; but adds, that it follows chiefly its malignant or worst species.

The curative treatment need not long detain us. In slight cases of the simple variety, we may say, with Dr. Sydenham, that the disease hardly calls for medical assistance of any kind. When the fever is mild, it forms, as we have already observed in respect to exanthems of all kinds, the natural means of cure, by determining the specific poison to the surface. An emetic may assist this determination, and has hence been almost always found serviceable ; and, if the bowels be confined, an aperient may follow ; but violent purging will add to the irritation, and distract the remedial course that is taking place.†

In the paristhmitic variety, the determination, instead of being to the skin generally, is powerfully deflected to the throat and head, and the fever is alarming from its violence. The therapeutic intention is here to counteract this determination of the febrile action, always having regard to the nature of the fever, as well as to its severity.

Bleeding is the most direct and obvious means of reduction ; but it is open to the same objection as in typhus ; with the additional fact that we have here to deal chiefly with children, who have at all times less surplus of strength to spare than adults. Dr. Plenciz is, however, a strenuous advocate for the use of the lancet, and Dr. Armstrong has recommended it still more lately. Where the head is manifestly oppressed from congestion, it may be risked as a mode of local relief, and may be so far of service ; but it is a risk at all times, and ought by no means to form a part of the general curative plan. With the exception of typhous miasm, there is nothing that so much exhausts, or rather, perhaps, suppresses the sensorial

GEN. I.  
SPEC. 1.  
β E. Rosalia  
paristhmica.

Medical  
treatment.

Little necessary  
in its mildest  
form.

Principle.

Bleeding ob-  
jectionable ;  
though recom-  
mended by  
some writers.

---

week, after the decline of the rash. See Professor Elliotson's Lect. at Lond. Univ., as published in Med. Gaz. — Ed.

\* Dr. Elliotson does not adopt our author's hypothesis of a torpitude of the absorbents ; for, though he admits that the dropsical swellings following rosalia are most frequent in winter, and in cold damp weather, he believes that they are almost always of an inflammatory nature. As in other inflammatory dropsies, he says, the face is affected the very first. He believes, that when effusion occurs in the chest, there is inflammation or sub-inflammation of the pleura ; and so, with respect to the abdomen, there is peritonitis ; and, with respect to the head, arachnitis. — Ed.

† At the present day, emetics are not so generally given in rosalia as they were some years ago. It is now ascertained that, in simple cases, little more is necessary than mild aperients, except keeping the patient cool, and purifying his chamber by the occasional admission of fresh air, and sprinkling it and the bed-clothes with a solution of the chloride of lime or soda, which may also be introduced into the vessels used for the purposes of nature. This practice is particularly recommended by Dr. Elliotson (Clinical Lect., op. cit., p. 395.), with a view of lessening fetor, and preventing the extension of the contagion. — Ed.

GEN. I.  
SPEC. I.  
Enanthésis  
rosalia.

Emetics highly  
useful.

Purgatives how  
far useful.

Opium in-  
jurious.

Ammonia.

power as the miasm of rosalia; nor is there any evacuation that adds so immediately to the direct debility of the system as venesection, and, consequently, none that ought to be so studiously avoided as a general rule. And hence, often as the practice has been introduced by different individuals, it has never been common or established. Even Dr. Withering, who denominated the fever inflammatory, rigidly abstained both from bleeding and purgatives, and confined himself, in the onset of the disease, to emetics.\*

Vomiting, which has just been recommended in the first species, is still more necessary in the present; for it not only tends to take off the dry burning heat of the skin, by relaxing it, but unloads the fauces of the mucous and serous fluids that gorge and distend them.

Dr. Withering prohibited purgatives as well as bleeding. But, in doing this, he discovered still further the trammels of hypothesis; for while he conceived that emetics tend directly to throw off the matter of contagion from the organ in which he supposed it to be chiefly concentrated, he conceived at the same time that purgatives, on the contrary, only promote its diffusion along the course of the intestinal canal. This reasoning, however, cannot be allowed: the system should not be weakened by their violence, but their use can rarely be dispensed with. Calomel, as operating upon all the excretories, is commonly to be preferred to any other cathartic, or may be conveniently combined with rhubarb.

The great inquietude that characterises this disease has induced many practitioners to try opium; but it rarely affords relief in any form or combination, and generally renders the head worse. Ammonia is in every respect a far more useful medicine; it takes off the languor, and stimulates the secretions, especially those of the skin, without quickening the pulse. In the form of subcarbonate, it should be given in doses of half a scruple dissolved in a large spoonful, or half an ounce, of water every three or four hours†: and, in this way administered, it has a highly beneficial and powerful effect upon the local inflammation of the throat. Occasionally also, and in the intervals, we should employ some of the acids, whether vegetable or mineral, which are always grateful

\* Account of the Scarlet Fever in 1778. 8vo. No one can entertain a doubt that, when the symptoms indicate inflammation in the head, chest, or abdomen, the practitioner should not dispense with bleeding; nor should he be deterred by any unreasonable fear of typhus and debility, from employing the lancet, when the symptoms above alluded to are serious and pressing. The internal inflammation is then the principal source of danger, and leaves no alternative. The debility must be combated when it arrives. If the inflammatory symptoms run high, Dr. Elliotson approves of venesection; but, in general, he deems topical bleeding sufficient, and praises the good effects of fresh air, the lowest possible regimen, cleanliness, few clothes, and keeping open the bowels. It is only when inflammation of important organs comes on, that he is an advocate for general bleeding, finding that any local inflammation in ordinary parts will only require topical bleeding. — Ed.

† If the disease show a very considerable gangrenous tendency in the throat, if the pulse be very soft and feeble, Dr. Elliotson recommends the same treatment as in typhus fever. "Among the internal stimulating medicines, which it is necessary to give at the last," says he, "carbonate of ammonia is one of the best, with the exception, perhaps, of wine." All impartial practitioners must agree with this eminent professor, that ammonia has no peculiar power over the disease. — Ed.



to the patient, and seem, more than any other internal mean, to diminish the burning heat of the skin. But our chief dependence for this purpose must be upon Dr. Currie's bold and happy plan of employing cold water freely. Sponging will rarely be found sufficient, or rather will rarely be found of equal advantage with affusion; the fluid may, indeed, in this case be dashed against the patient till the heat is subdued, and the process be repeated as fast as it returns. The refreshment is often instantaneous, and operates like a charm; and seems to show, not merely a refrigerant, but an exhilarating power; the skin immediately becoming softer and moister, as well as cooler. [One caution is requisite, however, viz. only to apply the cold water when the patient is not perspiring, and when the skin is parched and hot.]

The throat must, in the mean while, be deterged with antiseptic gargles of oxymel and port-wine, port-wine negus, of chloruret, or chloride of soda and lime, and tincture of myrrh, or any of those already noticed under malignant paristhmitis; or fumigated with the vapour of mineral acids.\* Blisters may also be applied with good effect. Dr. Withering objects to them; but general experience is in their favour.

In severe cases, Dr. Plenciz† had recourse to the aurum fulminans, as recommended by De Haen‡, and speaks warmly of its success. Its design was to operate on the bowels and bladder, and it was given in combination with calomel, rhubarb, and squills. I have never tried it, nor can I very clearly trace out the path by which any benefit may be expected from it. Wine and nutritious food may be allowed, (chiefly, as the editor conceives, in the advanced, or typhoid stage,) but somewhat less freely than in malignant quinsy. The convalescent state requires great care; and, on account of the tendency to dropsical swellings, a damp cold atmosphere should be especially avoided.§

\* Gargles of the chloride of soda or lime are now generally preferred. When there are dark-coloured sloughs on the throat, which cannot be removed as portions of lymph can, the gargle should be made stronger than that for other cases, in which Dr. Elliotson recommends two ounces of the common solution to 1b ss. of water. When the patient is unable to employ them properly himself, as is the case with children, and with other individuals severely ill, they should be thrown over the affected parts of the throat with a syringe. Cold or even iced drinks will be found very grateful, as relieving the excessive heat of the throat and mouth. — Ed.

† Tractat. de Searlatinâ.

‡ Rat. Med. Continuata, tom. i. part 1. 8vo. Vienna.

§ Dr. Ryan was called to a patient, who had been convalescent from scarlet-fever a month, at the end of which time he went out at two o'clock, on a cold day in the spring, and returned in a short time completely anasarous, and died at two next morning. (Manual of Midwifery, p. 685. ed. 2.) The anasarca and dropsies following rosalia, seem to Dr. Elliotson to be most advantageously treated with purgatives and leeches. In all cases purgatives are recommended, and topical bleeding also, if there be local dropsy. In intense cases he even sanctions bleeding from the arm. (Clinical Lectures, op. cit.) While Dr. Good regards the anasarca and dropsical effusions, consequent to rosalia, as depending upon torpitude of the lymphatics, caused by injudicious exposure to cold damp air, Dr. Elliotson refers them to a degree of inflammation in the parts or cavities affected. Andral supposes them to be connected with the interruption of cutaneous perspiration, produced by the extensive efflorescence on the surface of the body; but this doctrine is hardly tenable, when it is recollected that no such consequence usually arises from erysipelas and other affections of the skin, how-

GEN. I.  
SPEC. I.

Enanthésis  
rosalia.

Affusion of  
cold water.

Gargarisms.

Blisters.

Aurum  
fulminans.

GEN. I.  
SPEC. I.  
Enanthésis  
rosalia.  
Petechiæ and  
hemorrhages in  
the convales-  
cent stage.

[Dr. Paul has lately detailed an interesting case \*, in which the disease, besides being remarkable for its severity, exhibited the peculiarity of petechiæ and profuse hemorrhages coming on in the convalescent stage : under these circumstances, the good effects of the sulphate of quinine were particularly manifest. †]

## SPECIES II.

### ENANTHÉSIS RUBEOLA.

#### MEASLES.

RASH IN CRIMSON, STIGMATISED DOTS, GROUPED IN IRREGULAR CIRCLES OR CRESCENTS; APPEARING ABOUT THE FOURTH DAY, AND TERMINATING ABOUT THE SEVENTH; PRECEDED BY CATARRH; FEVER A CAUMA.

GEN. I.  
SPEC. II.  
Disease when  
perfect, con-  
tagious from a  
specific miasm;  
at times  
epidemic.

OF the earliest accounts we possess of measles, by the Arabian writers called AL-HASBET, (الحصبة) the origin of the name of rubeola, and the frequency with which it was at first mistaken for rosalia, some notice has been taken under the last species. In its perfect form, it is unquestionably contagious from a specific miasm, though we shall presently have to notice one variety that is inactive in this respect. Like rosalia, also, it is at times epidemic, and probably from the same cause, — a general predisposition in the population of the affected district or country to receive its contagion, perhaps to originate it, from some peculiar but unknown temperament or constitution of the atmosphere. [It has generally been supposed, that measles are not contagious before the eruption has appeared; but certain facts lately recorded tend to prove that this opinion is not correct. ‡]

It occurs under the three following varieties : —

- |                                  |   |
|----------------------------------|---|
| α Vulgaris.<br>Common Measles.   | Rash slightly prominent, extending over the mouth and fauces; harsh, dry cough, inflamed watery eye.  |
| β Ineoeta.<br>Imperfect Measles. | Rash running its regular course, with little fever or catarrhal affection; affording no certain secu- |

ever extensive. With respect to wine, ammonia, and nutritious food, as recommended in the text, they can only be allowable after all tendency to inflammatory action in the system is over, and the patient is in a very low debilitated state. — ED.

\* See Edin. Med. Surg. Journ., No. xc. p. 55.

† If the eruption recede prematurely, Dr. Elliotson advises the warm bath, and friction, with stimulating applications, unless the patches be prevented from coming out by inflammation of any internal parts; then stimuli are to be avoided, and leeches employed. See Elliotson's Lect. delivered at Lond. Univ., as published in Med. Gaz. for 1833, p. 131. — ED.

‡ See Rust's Mag., Feb. 1827. It is both a contagious and an infectious disease. — ED.

γ Nigra.  
Black Measles.

rity against the common or regular disease.

Rash about the seventh or eighth day assuming a black or livid hue, interspersed with yellow; prolonged in stay; and accompanied with extreme languor and quickness of pulse.

GEN. I.  
SPEC. II.  
Enanthésis  
rubeola.

The only predisposition or exciting cause of rubeola that we are acquainted with, is the peculiar constitution of the atmosphere just referred to. And, under the influence of this cause, the FIRST VARIETY usually shows itself as an epidemic; generally commencing in the month of January, and ceasing soon after the summer solstice. There seem, however, to be some other exciting causes than a peculiar state of the atmosphere or of the season; for we meet with a few scattered cases of it in almost every month of the year, evidently proving an ingenerate origin, and that the atmosphere is not auxiliary to its diffusion, from its continuing to be merely scattered; yet possessing its ordinary principle of contagion, which only appears to be less generally active, because there is a less general predisposition, in those who have never undergone it, to be acted upon.

It occurs most usually in children, though no age is altogether exempt from it, [and it is generally more severe in children than adults.] As rosalia is accompanied with a typhoid fever\*, rubeola is accompanied with a catarrhal; and hence, the opening symptoms consist of some degree of hoarseness, with a harsh dry cough, and frequently uneasy respiration; the eyelids are tumefied, the vessels of the conjunctiva turgid and inflamed, the cheeks are wet with a flow of acrid tears, and the nostrils loaded with serum, that excites an almost perpetual sneezing; the head aches or is drowsy; and the stomach, from sympathy, rejects its contents. On the fourth day, the rash makes its appearance, and assumes the character described in the specific definition. The stigmatised and pathognomonic dots are sometimes at first attended by so general a flush, as to be lost in them, and to give the appearance of scarlet-fever. I have already noticed several signs, by which the two diseases may be distinguished, and the following may be added to the number. In scarlet-fever, there is no cough, the eyes do not water, and the eyelids are not red and swelled. In measles, the papulae are more acuminate, of a crimson instead of a scarlet hue, and do not appear till two days later than those of scarlet-fever. †

In small-pox, the fever abates as soon as the eruption makes its appearance. In scarlet-fever, this is by no means the case, and as little so in measles; the vomiting, indeed, subsides; but the cough, fever, and headach grow more violent; and the difficulty of breath-

α E. Rubeola vulgaris.

Ordinary exciting cause a peculiar constitution of the atmosphere. Other exciting causes unknown; but proved from its being at times sporadic.

Found most commonly in children.

Description.

Distinctive characters of measles and scarlet-fever.

\* This statement, as a general one, cannot be received as correct: rosalia may become typhoid; but is not necessarily so in all, or even the majority of cases. — ED.

† The crescent, or semicircular form of the patches in measles, attended with tenderness of the eyes, cough, &c. will generally leave no doubt about the nature of the disease. It is on the face that the characters of the eruption can be most plainly seen. — ED.



## GEN. I.

## SPEC. II.

## a E. Rubeola vulgaris.

The earlier the efflorescence the slighter the attack.

Irregular periods of appearance.

Desquamation.

Residuary symptoms and sequels.

Power of suspending variolous action.

Similar power in other diseases.

Ordinarily occurs but once in a man's life: in a few instances a second time.

ing, weakness of the eyes, and indeed all the catarrhal symptoms, remain without any abatement till the eruption has completed its course.

In rosalia, we have also seen, that the sooner the efflorescence breaks forth after the febrile attack, the slighter and more favourable the disease. The same occurs in rubeola. The ordinary period we have already stated to be the fourth day, but it occasionally appears on the third, when the patient commonly escapes with but little inconvenience. \* A few rare examples may be found of its exceeding, instead of anticipating, its proper term; and this so considerably, that Buchholz gives us an instance of its not appearing till the twenty-first day: thus precisely rivalling the singular anomaly of scarlet-fever already quoted from Dr. Maton. †

On the third or fourth day after the eruption first appears, the redness diminishes, the spots fall off in branny scales, which sometimes, however, are scarcely perceptible for their minuteness and tenuity; leaving a slight discolouration on the skin, with considerable itching. On the ninth day from the beginning, where the progress has been speedy, and on the eleventh where it has been slow, no trace of measles remains. The eyes, however, in many cases, continue still inflamed, and the cough is followed with severe peripneumonic symptoms, which may terminate in phthisis. Yet these sequelæ rarely occur, except where the treatment has been improper, or there is a predisposition to consumption from a strumous state of the lungs or some other phthisical diathesis.

If, on inoculation for small-pox, rubeolous contagion should have been previously received into the system, the variolous action will generally be, though not always, suspended till the measles have run through their proper course, when the inserted virus will resume its power, and the variolous eruption follow in its due order. This quality of suspension, however, is not peculiar to the measles. "I have known," says Dr. Perceval in his manuscript comment on the present species, "*bex convulsiva* yield the *pas* to variola, and then resume its station." In like manner, consumption is generally suspended during the entire course of pregnancy, and recommences its inroad on childbirth.

Measles, in their more perfect form, which is that we are now contemplating, may be said, as a general rule, to occur but once in the course of a man's life ‡; for though, as Dr. Baillie observes §, a few instances of a second attack are to be found, *exceptio probat regulam*; they are so rare as rather to maintain than disturb the law. || The cases described by Dr. Baillie, however, are very striking, and show a family, rather than an individual susceptibility. His first narration is that of five brothers and sisters, who had it in succession a second time, with one exception, after an interval of six months; the excepted case affording an interval of twenty-one years. His next narrative is that of two sisters, who had a repetition of measles after an interval of four months. Dr. Willan as-

\* Van der Haar, Waarneemingen. † Tode Med. Chir. Bibl., b. 1. p. 86.

‡ Few individuals escape the measles: the indisposition to it is less frequent than that to small-pox. — Ed.

§ Trans. of a Society for the Improvement of Medical and Chirurgical Knowledge, vol. iii. 8vo. Lond. 1812.

|| Roberdière, Recherches sur la Rougeole. Paris, 1776.

serts, that he never met with an instance. The anomaly is unquestionably less frequent than in scarlet-fever, and shows, that the influence produced by the rubeolous action on the habit is more rooted and effective.

In its ordinary course, measles is a disease unaccompanied with danger. It is in fact a catarrhal fever with a specific eruption. The fever, as we have observed already respecting exanthems in general, is necessary to a certain extent, for the purpose of throwing the virus upon the surface: as inflammation in a certain extent is necessary to produce healthy suppuration. But a small degree of pyretic action is in both cases sufficient; for if this be exceeded, the natural mean of cure itself becomes the disease, rather than the morbid condition it is intended to remove.

In all instances, the extent of the eruption will depend upon the fever, whenever the latter is in excess. And hence our attention is to be mainly directed to the fever itself; for, by diminishing the fever, we necessarily diminish the eruption also. In measles, therefore, the remedies we have already enumerated for a catarrh, are those we are to have recourse to. An emetic is always useful on the incursion of the disease; and should be succeeded by cooling aperients and demulcents, the skin being kept moist, and its heat subdued by mild diaphoretics.

Dr. Cullen recommends blood-letting during every period of the disease; and it has often been practised at its commencement.\* It is rarely, however, that this can be called for, except in the case of pneumonic inflammation; and as such an affection does not commonly appear till the close of the measles, we should, generally speaking, as recommended by Sydenham, reserve blood-letting till this period, and not exhaust the patient's strength beforehand; and the more so, as even here the fever has sometimes proved a synchus, and terminated in a typhous form, as particularly noticed by Sir William Watson in the children of the Foundling Hospital in 1763 and 1768, who gives to this modification the name of putrid measles†; if, indeed, this were an example of the genuine disease, of which there is some doubt; though there is little doubt, that in a few constitutions the disease has taken this turn. "In a charity school, where measles prevailed," says Dr. Perceval, in commenting on this species as given in the Nosology, "typhous infection was introduced; hence the variety  $\alpha$  changed to  $\gamma$ ." It is highly probable, that some such accidental cause occurred in producing Sir William Watson's modification.

Exposure to cold, so peculiarly serviceable in small-pox, has, from a supposed analogy, been recommended also in measles by some rash practitioners, and adopted by others. All fair analogy, however, is against the practice: the fever in measles is directly catarrhal, and the analogy should be drawn, not from small-pox,

GEN. I.

SPEC. II.

 $\alpha$  E. Rubecola vulgaris.

Commonly unaccompanied with danger.

Extent of the eruption dependent upon the degree of fever.

Treatment.

Venesection, how far expedient.

Circumspection required.

Fever sometimes changes to a typhous form.

Exposure to cold mischievous, and why.

\* "It is always necessary to observe carefully whether there is peripneumonia, or bronchitis, or pleuritis, and to treat it just as if no measles were present; to take blood from the arm or jugular vein, or apply leeches, &c. One would not pay great attention to these symptoms before the eruption occurs; but if they be severe, when the eruption comes out, blood should be taken. Moderate purging is proper, and low diet." Dr. Elliotson's Lect. at Lond. Univ., as published in Med. Gaz. for 1832-33, vol. xi. p. 70.

† Medical Observations, vol. iv. Hoffman, Opp., tom. ii. p. 67.

## GEN. I.

## SPEC. II.

α E. Rubeola vulgaris.

Room spacious

and airy.

Food.

Inhalation of vapour.

Opium rarely useful.

β E. Rubeola incocla.

Sometimes called spurious measles :

By Willan rubeola sine catarrho.

Distinct from slight attacks of genuine measles.

γ E. Rubeola nigra.

Rarely of serious consequence, unless typhus associate.

but from catarrh, in which exposure to cold would, in the opinion of every one, be absurd and mischievous ; nor can any thing be so likely to produce pneumonic inflammation, which, in truth, is most commonly the result of carelessness upon this very point. The room should be large and airy, free from currents of cold, but not hot ; the drink warm, the food light, diluent, and in a liquid form. If the cough be troublesome, it will be useful to breathe the steam of warm water, not through an inhaler, but over a large basin, with the head covered with a flannel large enough to hang over its edges ; and by this mean, the inflamed eyes will also have the benefit of the relaxing vapour. If the oppression of the chest, pain, and coughing should return, as they are apt to do on the disappearance of the eruption, venesection or cupping must again be had recourse to, however they may have been employed antecedently. Opium does not, in this case, afford the relief we might expect : it increases the heat and restlessness, but rarely conciliates sleep. A supervening diarrhoea proves the most favourable crisis, and should be very cautiously corrected. And where it does not take place naturally, it may be wise to imitate it by gentle laxatives.

From a peculiarity of constitution, or some accidental influence exercised over it at the time, the rubeolous rash is sometimes found to run through its regular course with little fever or catarrhal affection, as though it were a simple cutaneous eruption, and without appearing to afford an immunity to the individual against a future attack ; constituting our SECOND SPECIES.\* This has usually been called, and especially by the German writers, spurious measles ; but as it occurs most frequently when the genuine measles are epidemic, and is doubtless a result of their contagion, it is less properly a spurious, than an imperfect or immatured rubeola ; and I have hence exchanged the term *spuria* for *incocla*. Dr. Willan denominates it rubeola *sine catarrho* ; but, as the genuine measles themselves, capable of affording emancipation, have sometimes appeared with very slight catarrhal symptoms, *incocla* seems preferable. "Some," says Dr. Heberden, "have been so fortunate as to have the measles appear after suffering so very little from fever, or any of the preparatory symptoms, that they could hardly say they had been ill." In this case, the constitution is protected by a natural insusceptibility of the disease ; which is the best protection that can be enjoyed. In the case of imperfect measles, it is only operated upon by some temporary influence : and hence, as soon as this influence ceases, the common susceptibility returns.

The THIRD VARIETY, or BLACK MEASLES, seems to consist in an intermixture of dark, discoloured, or petechial spots from effused blood, with the proper rubeolous rash. It is found chiefly in persons of debilitated and relaxed fibres : and the dark patches will sometimes remain for ten or twelve days after the commencement of the eruption, with no other symptoms of fever, than a quicker pulse and an increased degree of languor. It is rarely of serious consequence, unless a typhous infection be accidentally communicated, as mentioned by Dr. Perceval, and usually yields with ease to an infusion of bark with sulphuric acid.

\* New York Medical Repository, vol. v. art. III.



Inoculation has been tried for the measles by employing the acrid serum from the eyes, or from minute vesicles that sometimes appear between the patches of the rash. Dr. Home, not being able to obtain a contagious ichor from either of these quarters, drew blood from a turgid cutaneous vein, where the eruption was most confluent, and, impregnating a dossil of cotton with it, he applied the cotton to a wound made in the arm. It has occasionally succeeded, but more frequently failed; nor does it seem to operate with any certainty in producing a mild modification; for many of the cases of inoculated measles have been quite as severe as we might reasonably have expected from a natural attack. It is in truth a very unnecessary caution in a disease which, in its ordinary range, excites so little alarm, and never leaves any blemish, like the small-pox, on the skin.

[While the editor coincides with the author on the question of inoculating for the measles, he deems it proper to mention that it is a point on which much difference of opinion has prevailed. This inoculation was performed with seeming advantages by Home and Horst, and it has been recommended by Vogel, Perceval, Brown, Monro, and Tissot. On the other hand, it has been condemned by Cullen, Girtanner, Rosenstein, Vaidy, and Montfalcon. In 1822, it was again tried by Professor Speranza\*, of Mantua, in many instances, all of which proved mild. A slight cut was made into one of the most vivid of the large spots with a lancet, the point of which was covered with the blood effused. With this, some small punctures were made in the arm, and a bandage applied.]

GEN. I.  
SPEC. II.  
γ E. Rubecola  
nigra.  
Rubeculous  
inoculation,  
as performed  
by Dr. Home:  
of uncertain  
result,  
and an un-  
necessary  
precaution.

By whom re-  
commended  
and con-  
demned.

### SPECIES III.

## ENANTHESIS URTICARIA.

### NETTLE-RASH.

RASH IN FLORID, ITCHING, NETTLE STING WHEELS; APPEARING ABOUT THE SECOND DAY; IRREGULARLY FADING AND REVIVING, OR WANDERING FROM PART TO PART: FEVER A MILD REMITTENT.

THIS, like the last species, is rather a troublesome than a dangerous complaint†, though it is always attended with some slight disorder of the constitution, as headach, drowsiness, coldness, and shivering, succeeded by great heat, and a white fur on the tongue. But the stomach seems chiefly to suffer; and hence there is not unfrequently pain and sickness in this organ, with great languor,

GEN. I.  
SPEC. III.  
Precursive  
symptoms.

\* Bibliotheca Italiana; Agosto, 1825; also Ed. Med. Journ., No. xc. p. 218.

† Rubecola, on account of its tendency to bring on inflammation of the bronchial membrane, lungs, or pleura, is a more serious disorder than urticaria. The latter rarely proves fatal; but many children die of measles. An examination of the bills of mortality in some months of the year, would afford ample proof of what is here stated. — Ed.

GEN. I.  
SPEC. III.  
Enanthésis  
urticaria.

Exciting  
cause un-  
known.

How far re-  
lated to  
lichenous  
eruptions.

How distin-  
guishable.

By Sauvages  
regarded as a  
variety of  
scarlet-fever :

How distin-  
guished.

Found chiefly  
in the summer.

Commences  
chiefly at night.

How denomi-  
nated by the  
Arabians.

Idiopathic form  
how distin-  
guished from  
sympathetic.

faintness, and anxiety. And, as a sympathetic affection, the eruption has often followed any violent disturbance of the stomach alone, as surfeit, cold cucurbitaceous or other indigestible vegetables, mushrooms, crab-fishes, shrimps, herrings, muscles, cupreous or other mineral poisons, introduced into the stomach by mistake.

The exciting cause, however, of genuine idiopathic nettle-rash is usually concealed from us ; for it often makes its appearance without any of these irritants, or, indeed, any other that we are acquainted with ; and hence Dr. Heberden was inclined to believe, that the skin itself is often the chief seat of the disorder, and that the stomach and the system only suffer secondarily.\* He has hence contemplated it as a modification of lichen, closely connected with the prickly heat of the West Indies, the essera or rather eshera (أشرا) of the Arabian writers. The resemblance is close ; but there are characters by which the two diseases may be distinguished with tolerable ease. In nettle-rash, the efflorescence is in scattered wheals, with few papulæ ; in lichen, in scattered papulæ, with few wheals. In the latter, the itching is more mordicant and aculeate ; the eruption, instead of terminating in a few days, runs on to an indeterminate period, and, however irritating, produces little or no fever, and but a slight constitutional affection of any kind.

In Sauvages, on the contrary, nettle-rash is treated of as a scarlet-fever under the name of *scarlatina urticata*. But its character, as given in the specific definition, is sufficient to distinguish it from any form of rosalia, which has no wheals, or elevated beds with a defined outline, and no sensation of stinging.

The nettle-rash occurs chiefly in summer, and more frequently among persons of the plethoric or sanguine habit, especially those who indulge too freely in eating and drinking. In children it seems sometimes to be connected with teething, or irritation of the bowels. The eruption commonly takes place at night, after the febrile symptoms just noticed have prevailed for about thirty or six-and-thirty hours ; and, on this account, the Arabians elegantly and correctly denominated the coloured wheals بنات آيل (benat-allil), " offspring or daughters of the night."

By the length of the precursive symptoms, the idiopathic disease is distinguished from the sympathetic affection, so closely resembling it, which is occasioned, as already observed, by crapulence, or substances introduced into the stomach that disagree with it. In this last case, the general swelling and eruption take place imme-

\* Med. Trans., vol. ii. p. 173. According to Dr. Elliotson's observations, the most frequent cause of urticaria, is the application of cold, especially when the body is heated. It is, perhaps sometimes induced by sudden heat. It will frequently arise from an emotion of the mind, or from certain ingesta. In some, almonds and the kernels of various fruits will occasion it, or rather the skin of such kernels, in consequence of its containing hydrocyanic acid, which will now and then have the same effect. So intense is the idiosyncrasy of some persons with respect to its excitement by muscles, that Dr. Elliotson heard of a woman, in whom urticaria was induced by one teaspoonful of water in which muscles had been boiled. In some people, he says, malt liquor, white wine vinegar, and common spirits, will produce it. Many persons on taking copaiba become covered with nettle-rash. He has known it excited by sulphate of quinine, opium, and subcarbonate of iron in treacle. — Ed.

diately, and subside as soon as the occasional cause is removed. Wheals of a similar appearance are sometimes found, with other peculiarities, as of a whiter hue, or interspersed with small tubercles, or of very small diameter, except when they unite in clusters: some of these sorts trouble the skin permanently; others vanish and reappear several times in the course of the day; others subside for a week or two, and then rally and reoccupy their stations. But all of them are of chronic duration, are little accompanied with fever, and cannot be considered correctly as varieties of the idiopathic disease. They occur, however, as such, in Dr. Willan's treatise.

A cooling regimen, and subacid diluents, with a free exposure to pure air, generally succeed in effecting a cure of nettle-rash, without any other medical treatment. A gentle laxative or two, however, should be added to the domestic means\*, and, if the itching be very troublesome, it may be often allayed by the use of camphorated vinegar.†

Dr. Willan describes a single case in which urticaria proved fatal.‡ The patient was a man of about fifty years of age, who had impaired his constitution by hard labour and intemperance. The precursive symptoms were all violent, and the sickness and languor were followed by fainting-fits; and he had great pain in the stomach, which was increased by pressure. The fever was considerable, and soon attended with delirium. While the rash was most vivid, his internal complaints abated; but he gradually got worse, and died on the seventh day. Here, however, the urticaria seems to have been only symptomatic. It afforded him relief, and offered the only chance of a recovery.

GEN. I.  
SPEC. III.  
Enanthésis  
urticaria.

Spurious or  
anomalous  
forms.

Medical  
treatment.

Has proved  
fatal;

but apparently  
only when  
complicated  
with some other  
affection.

\* About four years ago, a lady in Charlotte Street, Bloomsbury, was attacked with severe pain in the stomach, occasional sickness, and febrile symptoms, followed by an affection of the skin, which her family supposed was erysipelas, but it turned out to be urticaria. In this case emetics and purgatives may be said to have failed; for, though they gave partial relief, it was only temporary, and every night fresh wheals came out, and the febrile symptoms underwent an exacerbation, until bleeding was practised, which at once stopped the disease. The editor particularly noticed in this instance, how very rapidly changes occurred in the look of the eruption; so that, while he was in the room, the rash in some places would almost fade away, or change its appearance and form, and assume an increased redness. Dr. Elliotson, in his valuable lectures, relates several facts, showing the efficacy of venesection as a means of relieving urticaria. If the cause be in the stomach, he does not object to an emetic. — *En.*

† The local applications preferred by Dr. Elliotson, for alleviating the itching, are the chlorides of soda and lime, and lotions containing prussic or nitric acid. — *En.*

‡ Cutaneous Diseases, p. 401.



## GENUS II.

## EMPHLYSIS.

## ICHOROUS EXANTHEM.

ERUPTION OF VESICULAR PIMPLES FILLED PROGRESSIVELY WITH AN ACRID OR COLOURLESS, OR NEARLY COLOURLESS FLUID ; TERMINATING IN SCURF, OR LAMINATED SCABS.

GEN. II.  
Origin of the  
generic term.  
How distin-  
guished from  
cephlysis.

THE term emphylysis is derived from the Greek ἐμ or ἐν, "in, intra;" and φλύσις, "a vesicular tumour or eruption." Ἐμφλύω is usually employed among Greek writers nearly in the same sense as φλύω. In the present system it will be found employed somewhat more strictly, and in opposition to ἐμφλύω; so that, while emphylysis, from the latter, imports an eruption of vesicles, whether large or small, produced by or accompanied with *internal and febrile affection* essentially connected with it, cephylysis, from the former, imports an eruption of vesicles simply cutaneous or *superficial*; or, if, in a few varieties, combined with internal affection, not necessarily or essentially associated. Of the last, therefore, we shall have to treat in the third order of our sixth class, entitled ECCRITICA.

The genus EMPHLYSIS includes the following species:—

1. EMPHLYSIS MILIARIA.	MILIARY FEVER.
2. ————— APHTHA.	THRUSH.
3. ————— VACCINIA.	COW-POX.
4. ————— VARICELLA.	WATER-POX.
5. ————— PEMPHIGUS.	VESICULAR OR BLADDERY FEVER.
6. ————— ERYSIPELAS.	ST. ANTHONY'S FIRE.

## SPECIES I.

## EMPHLYSIS MILIARIA.

## MILIARY FEVER.

VESICLES SCATTERED OVER THE BODY, OF THE SIZE OF MILLET-SEEDS; TRANSPARENT-RED, AFTERWARDS MILKY; PRECEDED BY A PRICKING SENSATION; SIGHING, ANXIETY, AND SOUR SWEAT.

GEN. II.  
SPEC. I.  
Origin of the  
specific name.

THE disease takes its name from MILIA, "millet-grains," in consequence of the resemblance of its vesicles to the seeds of this plant in size, and, when matured, in colour. There is a doubt when it first made its appearance, and another doubt, among some pathologists, whether it be ever any thing more than a symptom of some other complaint.

It has been treated of at least for a century and a half, and that, too, as an idiopathic malady. It is said to have appeared first of all in Saxony: and the oldest writers assign two varieties to this disease, distinguished in Germany by the names of *Rothem Friesel* and *Weisse Friesel*, or red and white miliaria\*, but perhaps unnecessarily, as both varieties seem in most, if not in all instances to be only different stages of the same affection. The vesicles are at first red, from the colour of their under surface, or inflamed base, being transmitted through the transparent pellicle; they are afterwards opaque and milky, from absorption of the more attenuate part of the fluid, or some other change. In a few cases, however, the red hue seems to have continued throughout; and, in others, the white hue to have appeared from the commencement: a variation in the nature of the secretion, and in the mode of its absorption producing this difference of effect.

From the redness of the vesicles on their first eruption, this disease has also been denominated, by many writers on the Continent, *RUPTURA*; and has hence been confounded with the petechial or flea-bite-like spots that appear in scurvy and putrescent fevers; and the rather as miliaria is also a disease of debility. Ploucquet seems to have intermixed all these, as well as pemphigus, and described them under the common name of miliaria.† In like manner, Gerike's dissertation on this disease is entitled, *De Morbo Miliari, alias Purpurâ dicto*‡; and Juck's, *De Febre Miliari, vulgò Purpurâ rubra et alba, seu chronica*.§

From the minuteness of its vesicles, whose elevation can often only be ascertained by the finger, this species treads close upon the general complexion of the genus *enanthesis*, or rash-exanthem, and, during its red appearance, is often called a rash; and hence another cause of confusion and intricacy. By Linnæus and Parr, it is on this account defined nearly in the same terms as *rubeola*, so far as relates to the eruption; and at Leipsic, in 1650, where it is said to have been contagious or epidemic, was unquestionably mistaken for *rosalia* or scarlet-fever. As a symptom it sometimes accompanies inflammatory fevers, but more generally those of atony. It is certainly at times attended with flea-bite spots, or *petechiæ*, and Huxham speaks of it as sometimes giving rise to them: an observation confirmed by a like statement of Boneerf¶; and hence another reason why it has occasionally been treated of under the term *purpura*.

The eruption makes its appearance at an uncertain period after the commencement of the introductory fever; usually, however, on the third or fourth day. It seldom shows itself upon the face; but is first visible upon the neck and breast, and thence spreads progressively over the entire body. The febrile attack is usually somewhat severe, in all its stages: the pricking sensation occurs during the hot fit, and is like that of pin-points struck into the skin; the sweat is copious, but proves, by its sour and olid smell, that it is a morbid secretion, and hence affords no relief. The disease runs on, with variable remissions or exacerbations, for seven or even

## GEN. II.

## SPEC. I.

Emphylysis miliaria.

Possesses two stages, formerly called two varieties.

Red and white miliaria.

Difference of colour explained.

Often called *purpura*; and confounded with putrescent spots.

Sometimes regarded as a rash,

and related to measles.

Occasionally a concomitant of both inflammatory and atonic fevers.

Description.

\* Sindner, *Betrachtungen des Rothem und Weissen Friesels*. Schweidnitz, 1735.

† *Initia Biblioth.*, v. pp. 564, 565.

‡ Hal. 1733.

§ Erford. 1716.

¶ Vol. i. p. am.

¶ Hautesierk, *Recueil*, ii. p. 217.

GEN. II.  
SPEC. I.  
Emphylisis  
miliaria.

Seldom alarm-  
ing in its  
progress :

but occasion-  
ally so, from  
accidental  
circumstances.

As in France  
in 1821, where  
it became  
epidemic.

Phlyctenous  
variety.

Probably not  
contagious.  
Mostly a  
secondary  
affection.  
According  
to Cullen  
always so.  
The contrary  
evinced.

Supposed by  
Cullen to be  
produced by  
excessive  
perspiration.

fourteen days, and has sometimes extended to twenty-one days, commonly terminating in a critical and natural sweat; the red transparent vesicles, as already observed, gradually assuming a whiter hue, and losing their transparency; and about the fifth day drying in minute crusts or scales; which, in some instances, are succeeded, as in the case of aphthæ, by a new crop of vesicles, that pass through a like course. Notwithstanding the anxiety and depression of animal spirits which so peculiarly mark this exanthem, it commonly maintains through its entire range a mild character, undisturbed by any alarming symptoms. In some instances, however, either from the constitution or peculiar circumstances of the patient, or the peculiar temperament of the atmosphere, it puts on a malignant character, and proves fatal in a few days.

Such a character it seems to have exhibited in the departments of the Seine and Oise in France, in the autumn of 1821, where also it committed a very extensive havoc as an epidemic. M. Rayer, who has given a valuable history of its range in this quarter, tells us that it usually commenced with symptoms of general restlessness, which were soon succeeded by a copious perspiration, that continued through its entire progress, whether it terminated in recovery or death. The eruption, which, as usual, appeared on the third or fourth day, was general or partial, discrete or confluent. And as the transparency of the vesicle was in some instances without a red basis, and continued till desquamation, he adds to the two varieties of red and white miliaria a third, which he distinguishes by the name of phlyctenous. He tells us also that, on dissection, the mucous surface of the stomach and intestines generally showed some proof of inflammation; an appearance which was likewise traced in various instances in the lungs, and even the brain or its membranes. The cause of the epidemic seems obscure; the air, however, was humid, and the face of the country is considerably mapped with marsh-land.

We have no clear proof of its being contagious; and Stoll\*, and most pathologists, with him, deny that it is so. It is found, indeed, more frequently as a secondary, or symptomatic, than as an original affection of any kind. Cullen denies that it is ever otherwise than symptomatic. But this is to speak, as we have already seen, in too prescriptive a tone. The author himself, indeed, has lately had a clear and well-marked example of its idiopathic appearance in a young gentleman of a bilious habit, thirteen years of age, in which the vesicles were very numerous, but distinct. They passed through the two stages of a red and milky hue, and terminated on the seventh day in branny scales, unconnected with any other ascertainable disease: and M. Planchon has given abundant instances of the same kind.† Professor Frank affirms, that it is often epidemic, and in some parts endemic‡; but his description seems to combine the symptoms of other diseases with those of genuine miliaria, so as to make it a mere satellite upon a more imposing potentate.

Dr. Cullen, however, conceives it to be nothing more than an eruption occasioned by a stage of sweating protracted till it has produced debility, in any fever whatever. But, in this case, we

\* Rat. Med., ii. pp. 58. 169.

† Dissertation sur la Fièvre Miliare, &c. Tournay, 8vo.

‡ De Cur. Hom. Morb. Epit., tom. iii. sect. 322. p. 131. 8vo. Mannh. 1792.



should expect it most frequently in the clammy saburral sweats of typhoid fevers, in which it is only occasionally to be met with, and certainly less frequently than in other fevers.\*

In few words, miliaria, when idiopathic, is an eruption accompanied with a mild typhus for the most part, though not always, and a peculiar irritability of the skin. And where the same eruption appears as a symptom of some other disease, it is probable that a like irritability of the skin prevails.

It is, however, unquestionably a disease of debility, and has sometimes, like rosalia, been followed by cellular or abdominal dropsy. And to this character of weakness our eye should be directed in attending to its cure. Every thing that heats and stimulates should be avoided. The bowels should be cleared of all irritating materials by mild laxatives; and, if offensive breath, or any other symptom, should indicate defecation of the stomach, an emetic should be given at the first. Cooling drinks, light bed-clothes, and a cool atmosphere, will, in every case, be of essential service; and the patient may be allowed to lie with his hands and arms out of bed.

By these means alone, Dr. Cullen thinks he has frequently prevented miliary eruption in lying-in women and others, where it might have been expected as a concomitant. But where it has actually appeared, he adds to this regimen the use of tonic and antiseptic remedies, particularly Peruvian bark, cold drink, and cold air.

Purgatives, however gentle, have been objected to by many pathologists; but, when not carried beyond the strength of the patient, they rarely fail to be of service. "I am convinced by experience," says Sir George Baker, "that the prudent application of this practice to the miliary fever has been of singular advantage; and it is worthy of observation in this place, that the symptoms of the measles are often rendered less formidable, when, during this disease, the patient has every day two or three evacuations by stool."†

In many instances, however, something more specific than this general plan will be found necessary. In his own practice, the author has endeavoured not merely to check but to change the perspiration; and hence, while, from an early period of the disease, he has employed tepid ablution or sponging, which is always highly refreshing, he has given small doses of antimonial powder, with infusion of roses containing a surplus of sulphuric acid; and has rarely continued this course for four-and-twenty hours without finding the sweat less copious and of a more natural quality. And where the languor has been distressing, he has added camphor in the form of pills, giving a scruple or half a drachm in the course of the twenty-four hours.

\* The editor lately attended, with Dr. Pinckard, a gentleman in Gower Street, who had had a severe inflammation of his lungs, and being very fearful of cold, he kept his room exceedingly warm, so that during his convalescence he was always in a profuse perspiration, which had a remarkably sour smell, and became attended with an extensive miliary eruption over the sides of the neck and shoulders. Dr. Elliotson has frequently seen the same cutaneous affection on the hands, in acute rheumatism, and he states that they are common in measles and scarlet-fever. — Ed.

† Med. Trans., vol. li. art. xix. p. 300.

GEN. II.  
SPEC. I.  
Emphysema  
miliaria.  
Pathology.

Medical  
treatment.

Perspiration  
not only to be  
checked, but  
changed in its  
nature.  
Tepid ablution.  
Antimonial  
alterants with  
mineral acids.  
Camphor.

GEN. II.  
SPEC. I.  
Emphylisis  
miliaria.

A like eruption  
produced by  
merely irritat-  
ing the skin;  
but here no  
constitutional  
affection.

That the skin is in a state of peculiar irritation, is highly probable, from our being sometimes able to excite a like eruption by wearing a shirt of coarse flannel or horse-hair. And hence Dr. Darwin gives one example of miliaria, as he calls it, "produced by the warmth, and more particularly by the stimulus of the points of the wool in flannel or blankets applied to the skin, which by cool dress, and bed-clothes without flannel, soon ceased." He has distinguished this affection by the name of *miliaria sudatoria*; but it ought rather to be regarded as a variety of intertrigo, or fret.

## SPECIES II.

### EMPHYLISIS APHTHA.

#### THRUSH.

VESICLES GRANULAR, ROUNDISH, PEARL-COLOURED; CONFINED TO THE LIPS, MOUTH, AND INTESTINAL CANAL; TERMINATING IN CURD-LIKE SLOUGHS; OCCASIONALLY WITH SUCCESSIVE CROPS.

GEN. II.  
SPEC. II.  
Origin of the  
specific term.

APHTHA is derived from the Greek *ἀπτα*, "accendo," "to burn or inflame." Like the preceding species, this eruption, though at one time supposed to be papulous, is now generally admitted to consist of minute vesicles containing a whitish or milky fluid, when matured; and hence, in a nosological arrangement, it naturally follows miliaria.

This disease is found under three varieties, a white, a black, and a chronic:—

$\alpha$  Infantum.  
White thrush.

Appearing in infants soon after birth; and often extending from the mouth to the intestinal canal; mostly with slight febrile symptoms, and white sloughs.

$\beta$  Maligna.  
Black thrush.

Accompanied with great debility of vascular action; usually ascending from the larynx into the mouth; sloughs black; fever a typhus.

$\gamma$  Chronica.  
Chronic thrush.

Protracted and exacerbating; with great emaciation and hectic fever; extending through the whole range of the intestinal canal.

#### Pathology.

The disease consists in a peculiar irritation of the whole mucous membrane, and particularly the mucous glands of the mouth and fauces, producing minute vesicles and sloughs. [On dissection, irregular patches of inflammation, slightly elevated above the surrounding parts, and often covered with minute vesicles and ulcers, are found on various portions of the mucous membrane of the intestines, especially the ileum.\*] In the second and third species,

\* Abercrombie, in Edin. Med. and Surgical Journ., July, 1820.

some of the smaller blood-vessels are also eroded at the mouth, and hence the sloughs become livid or ulcerated.

All the varieties, therefore, occur only under circumstances of considerable debility; and hence, while the first is usually found in infancy, the two last are mostly an accompaniment of low fevers, old age, or cachexies.

The WHITE THRUSH, or that of infancy, commences in the mouth. The angles of the lips are usually first beset with the eruption, probably from their exertion and fatigue in the act of sucking. From thence it spreads in scattered papule over the tongue and cheeks, till at length many of the papule coalesce, and the eruption appears in patches, or strata. The fauces become next affected, and it descends thence through the œsophagus into the stomach, and travels in a continuous line through the entire course of the intestines to the rectum, the feces being often loaded with aphthous sloughs.

In very mild cases, the disease restricts itself, or by judicious management is restricted, to the mouth, and terminates in a single separation of the curd-like crusts. But it usually proceeds farther; and a second, and even a third crop, takes the place of that which disappears. The general health is, in the mean time, but little disturbed, though the stomach is disordered, the pulse is often a little quickened, and the infant is rendered fractious. But in an unhealthy habit, when the food is imnutrient, and the frame weak and atrophous, the under-surface of the vessels ulcerates, the ulceration spreads more widely and deeply, a low fever ensues, and the little patient sinks beneath its malignancy.

In the mildest form, this eruption seems to be highly acrimonious; for the nipple of the nurse is sure to be affected. There is little doubt, moreover, that the acrimony is specific and contagious: though, in order to multiply itself and preserve its peculiar powers, it seems necessary that it should come into close union with the same membrane, or a membrane of the same structure as that which originates it. *Sine proximo contactu, says Professor Frank, communicari hunc morbum, non facile concedimus.\** Hence the nipple, though corroded by the sharpness of the humour, does not produce aphthæ, nor does the ulceration spread beyond the reach of the acrid ichor: but it has been received by kissing the infected lips of an infant; and has in this manner propagated itself to adults as well as to children.

But, beyond this, we have good authorities for believing it at times to be epidemic. For not only all the children of the same family, how cautiously soever separated from one another, but many of those of the same neighbourhood, have been known at times to suffer from it simultaneously. Yet whether in this case the epidemic be the result of the specific matter of the exanthem, floating as an undissolved miasm in the atmosphere, or whether any particular intemperament of the atmosphere itself predispose the body to the generation of aphthæ, is unknown.

In the cure of this species, our first object should be to remove all acrimonious materials from the primæ viæ by a laxative or emetic, or both, and thus, as far as we can conjecture concerning

GEN. II.  
SPEC. II.]  
Emphysis  
aphthæ.

α E. Aphthæ  
infantum.  
Description.

Travels from  
the mouth  
downwards to  
the intestines.

Sometimes  
terminates in  
the mouth with  
a single crop of  
eruption.

But usually  
reigns, and  
appears in a  
second or third  
crop.

Has sometimes  
proved fatal.

Fluid highly  
acrimonious  
and erosive.  
Probably  
specific and  
contagious.  
Hence propa-  
gated by  
kissing.

Sometimes  
epidemic.

Curative  
intention.

\* De Cur. Hom. Morb., tom. iii. § 367.



## GEN. II.

## SPEC. II.

α E. Aphtha infantum.

Health of the nurse to be enquired into. Nature and preparation of the food.

Detergent gargles. Inviscating astringents: but not too irritant.

β E. Aphtha maligna.

How produced.

Works upwards from the stomach.

Said to be at times epidemic and contagious: but perhaps only as connected with other contagions or epidemics.

Treatment.

it, root out the primary source of disease. We must at the same time carefully examine the health of the nurse of the infant, if the infant be at the breast, and particularly as to the nature of the milk, and the freedom of the nipple itself from all primary disease, so that the child may not have a foundation laid for it in this quarter. If the child be weaned, we must be particularly attentive to the nature of the food, and the mode of its preparation, concerning which nurses, when left to themselves, are often too careless. And we have next to prevent the multiplication of the papulæ by syringing off the acrimonious fluid as well as we are able with diluting or detergent gargles, and expediting the separation of the sloughs by inviscating astringents, as bole armenic, alum, borax or catechu, intermixed with mucilage or honey. These astringents, however, must not be made very sharp; for in this case we shall hurry off the little sloughy curds too rapidly, irritate the tender surface of the new skin, and produce a new crop of eruption; which is perhaps excited more frequently by our being thus too busy and precipitate, than by any other means whatever. If the disease have descended into the stomach and intestines, a mixture of rhubarb and magnesia, or a little castor-oil, given occasionally, will be the best medicines.

The second variety, or BLACK THRUSH, is sometimes found idiosyncratically in old age, when all the vital resources are failing, and the constitution is sinking apace; but it is more commonly a concomitant on acute debilitating diseases; as in typhus, or malignant remittents. Stoll affirms that, in all these cases, the disorder commences not in the mouth, as in infants, but in the stomach, and works its way both upwards and downwards\*; and, from the pain and cardialgia that are often complained of antecedently, there seems ground for this opinion. Birnstiel makes the same remark, and compares the feeling to that of a tense cord extending from the cardia to the navel.† This variety is also said to be at times epidemic, and, by some, contagious. But it should be observed, that, in most of these cases, aphtha has appeared as a concomitant of other diseases, and probably as the result of them. Thus when it is affirmed by Muguet to have been decidedly contagious at Paris on a particular occasion‡, an alarming typhus seems to have been present also. Stoll gives the same account of it, but it was then united with miliary fever§; and on another occasion, when it appears to have had pretensions to an epidemic range, it was combined with a prevailing intermittent.||

In all these cases, the mode of treatment must depend upon the nature of the particular case. In the drooping of old age, we can only palliate; and our best palliatives will be cordials, as port-wine negus, or wine itself, and stimulating nutritive food: where the aphtha is dependent upon some other affection, it can only be remedied by remedying the parent disorder.

In very cold northern, and especially in cold marshy climates, aphtha, in one of its varieties, is said to occur frequently in all ages, and often without fever. As we have already seen, that it is very generally the result of a reduced state of health and vigour,

\* Rat. Med., 167.

† Sterblichkeit im Krankenhaus zu Bruchsal.

‡ Raulin, Von Erhaltung der Kinder.

§ Loco citato.

|| Fontanus, Annal., p. 59.

this is by no means improbable; and the best means of opposing it is warmth, a pure and unstagnant air, exercise, and a generous diet.

GEN. II.  
SPEC. II.

The third variety, or CHRONIC THRUSH, seems chiefly also to have its first seat in the stomach, or some adjoining viscus.

γ E. Aphtha chronica.

It has been described by Hillary under the name of *aphthoides chronica*, and more lately by Dr. Latham under that of *cachexia aphthosa*. It is more frequently found in hot than in temperate climates, from the inroad which is so often made upon the strength of the constitution by the permanent excitement of the climate.

"A slow hectic fever," says Dr. Latham, "with a pulse weak and a little quicker than natural, marks the commencement of this disease. Pimples on the edges of the tongue, with superficial blisters within the mouth and fauces, next succeed; and a corresponding heat and soreness of the stomach more or less accompany this and every stage of the disease."\* The whole intestinal canal soon afterwards becomes affected, and diarrhœa, and, not unfrequently, dysentery, are the consequence. The irritation then subsides, as though the disease had worn itself out; but there is not vigour enough in the constitution to heal the exulcerations; and, the original cause continuing, fresh exacerbations take place, and every symptom is more aggravated, usually accompanied, moreover, with a fearful despondency. These repeated recurrences gradually exhaust the system, and the patient at length sinks beneath their persevering assaults.

Description by  
Latham.

Dr. Thomas has given a good account of this affection as it has occurred from time to time in the West Indies.†

During the exacerbations, opium seems to afford the best relief; while, in the intermissions, light bitters and other tonics should be had recourse to. For the distressing irritation that often exists in the throat and rectum, Dr. Latham is bold enough to recommend gargles and injections of diluted litharge-water; the latter in combination with laudanum.

Treatment.

### SPECIES III.

## EMPHLYSIS VACCINIA.

### COH-POX.

VESICLES FEW OR A SINGLE ONE; CONFINED TO THE PART AFFECTED: CIRCULAR, SEMI-TRANSPARENT, PEARL-COLOURED; DEPRESSED IN THE MIDDLE; SURROUNDED WITH A RED AREOLA.

THIS disease attracted attention in the county of Dorset, about forty or fifty years since, as a pustular eruption derived from infection, chiefly showing itself on the hands of milkers who had milked cows similarly disordered. It had been found to secure persons from the small-pox; and, so extensive was the general opinion upon

GEN. II.  
SPEC. III.  
History.

\* Med. Trans., vol. v. art. vi.

† Modern Practice of Physic, p. 528.

GEN. II.  
SPEC. III.  
Eumphyllsis  
vaccinia.

First distinctly  
noticed half a  
century ago as  
a prophylactic  
against small-  
pox.

Facts com-  
municated to  
Sir George  
Baker.

Subject taken  
up by Jenner.  
Difficulties  
he had to  
encounter.

Publishes his  
discovery in  
1798.

Rewarded by  
parliament :  
rapid and  
extensive  
progress of  
vaccine  
inoculation.

The effect of  
the sores con-  
tracted by  
milkers known  
still more  
anciently and  
extensively.

the subject, even at the time before us, that an inoculator, who attempted to convey the small-pox to one who had been previously infected with the cow-pox, was treated with ridicule. A formal trial was made, however, and it was found that no small-pox ensued. About the same time, a farmer of sagacity of the name of Nash, duly attending to these facts, had the courage to attempt artificial inoculation on himself; and the attempt is said to have succeeded completely. Similar facts and numerous examples of them were accordingly communicated to Sir George Baker, who, having engaged not long before in a most benevolent, though highly troublesome, controversy respecting the cause of the endemial colic of Devonshire, was unwilling, notwithstanding his triumph, to tread again the thorny paths of provincial etiology. Gloucestershire, however, another dairy county, had witnessed the same disease, with similar consequences; and the same opinion, generally prevailing in distant districts of both counties, afforded proof that the power thus ascribed to cow-pox was not wholly visionary.\*

Dr. Jenner, then resident at Berkeley in Gloucestershire, pursued this hint with great judgment and unabated ardour. He was at first foiled by not distinguishing between the genuine cow-pox and an ineffective modification of it, or a spurious disease of nearly a similar appearance, to which the same animal is subject, but which is no preservative against the small-pox, and found another difficulty in determining the period of time within which the vaccine virus maintains its prophylactic power. Having at length, however, made himself master of the distinctive characters of the genuine vesicle, he ventured to publish the discovery in 1798, and to recommend inoculation with the virus of vaccinia as a substitute for variola. The result is known to every one: the discoverer was justly and liberally remunerated by parliament, and vaccine inoculation has passed with rapid progress over every quarter of the world, from the arctic circles to the extremes of Asia and Africa, and been adopted by civilised and uncivilised nations, by blacks as well as by whites, by the Fin, the Hottentot, and the Hindoo.

[The exemption from small-pox, enjoyed by individuals who contract pustules or sores on their fingers and hands by milking cows which have a certain disease on their udders and teats, is a fact that has been more extensively known from time immemorial, than the foregoing observations would lead us to suppose. Not only has evidence been adduced, satisfactorily proving that such fact was known to farmers and others having the management of cattle in the principal dairy counties of England, but that it had been remarked by the same class of persons in other countries, as the department of the Meurthe in France, various parts of Germany, Norway, and Spain. In Ireland, the disease in the cow is called *shinach*, an expression derived from two Celtic words signifying *udder* and *cow*; and it is hence concluded that a knowledge of the complaint in that animal must have existed there from a period of high antiquity. Some facts, mentioned by Humboldt in his work on New Spain, leave no doubt that the inhabitants of the Andes have long been in possession of the same information as the dairy farmers of England. Another fact, understood by this class of persons, and

\* Evidence delivered before the Committee of the House of Commons, 1821.



received by them traditionally, is, that cows, which have once had the disease, do not suffer from it a second time. But the most curious circumstance, revealed of late years, is the still greater information that was possessed on this subject by the ancient Hindoos; for in the Sanscrit language there is a work, imputed to Hauvantori, from which it appears that the Hindoos, at a very remote period, were not only aware of the preservative power of the vaccine matter against the small-pox, but actually practised vaccination. The passage to which a reference is here made is cited in the article *VACCINE*, *Diet. des Sciences Méd.*, where is also quoted a document, drawn up by Chaptal, the object of which is to prove that vaccination was suggested in France, as early as the year 1781, by M. Rabaut, a protestant clergyman of Montpellier. The scheme, it is even asserted, was made known by this M. Rabaut to an English medical gentleman residing in the family of a rich Bristol merchant named Ireland, then at Montpellier, and who promised to communicate the proposal to Dr. Jenner. This seems, however, more like a little national jealousy, than a fair claim to the honour of the discovery; for no evidence is brought forward to prove that the hint was ever really transmitted to Dr. Jenner, and, if it were really thrown out at Montpellier in 1781, it seems to have been thrown away; for, fifteen years afterwards, that is to say, in 1796, when Jenner first vaccinated the human subject, it still remained, as far as the French were concerned, in silent oblivion.\*]

The disease, in its present state, may be said to embrace the four following varieties:—

- |   |   |
|---|---|
| α <i>Nativa.</i><br>Natural cow-pox.      | Genuine cow-pox, as it ordinarily appears on those who accidentally receive it from the affected cow.                     |
| β <i>Spuria.</i><br>Spurious cow-pox.     | An ineffective modification of cow-pox, or a different but resembling disease, incapable of preserving against small-pox. |
| γ <i>Inserta.</i><br>Inoculated cow-pox.  | The genuine cow-pox, as it appears on inoculation.  |
| δ <i>Degener.</i><br>Degenerated cow-pox. | Cow-pox degenerated in its specific power of preservation from unknown causes.  |

In the NATURAL FORM OF COW-POX, or as immediately received by milking or otherwise handling a diseased animal, the vesicles are more or less numerous, and appear on the hands or such parts as have been in contact with the affected udder; of a bluish or azure tint, whence Hebenstreit's proposal to call the disease *glau-cima*: the fluid at first limpid; afterwards opaque and purulent; often with enlargement of the axillary glands, and considerable fever.

GEN. II.  
SPEC. III.  
*Emphylis vaccinia.*

Vaccination alleged to have been practised very long ago by the Hindoos.

α *E. Vaccinia nativa.*

Distinctive characters.

\* With respect to the Hindoo claim, it should be recollected, that attempts at interpolation and forgery by the Hindoos upon their own authorities and records, are not uncommon. Captain Wilford was actually imposed upon by his pundit, respecting a pretended history of Noah and his sons. See *Life of Sir William Jones*.—Ed.

## GEN. II.

## SPEC. III.

$\alpha$  *E. Vaccinia*  
*nativa*.

Description in  
the human  
subject:

Most frequently the vesicles make their appearance about the joints or extremities of the fingers; their figure is circular, and there is a slight dip from the circumference to the centre. The fever opens with its usual symptoms of lassitude, pain in the head, limbs, and loins, rigor, vomiting, and a quickened pulse; the head sometimes continues affected after these preparatory signs have gone off, and is even accompanied with delirium. The inflamed and ichorous tubercles, having suppurated, burst in three or four days from distension, and become troublesome sores, healing slowly, and occasionally assuming a phagedenic appearance. The fever in the meanwhile abates, and ceases altogether about the seventh day. The fluid discharged from the ulcers is highly contagious; and the eyelids, lips, nostrils, or any other part of the body, are sure to become inoculated with it, if scratched or rubbed with the fingers accidentally charged with it.

in the cow.

In the affected cow itself, the tubercles are still larger, or rather consist of vesicles, surrounded by a broad and circular erythema: the animal droops considerably, and yields but little milk. The ulcers are foul and often obstinate.

$\beta$  *E. Vaccinia*  
*spuria*.

Distinctive  
characters.

In the SPURIOUS COW-POX, or the disease to which cows are subject, that bears a near resemblance to the genuine, and is often confounded with it, though destitute of its prophylactic power, the vesicles are less uniformly circular; purulent from the first; without the bluish tint; with little or no central depression. Whether this, in the animal itself, be strictly a variety of a common species, or a distinct species of a common genus, has not been accurately determined. But it is now fully ascertained, that this affection of the cow produces no security by inoculation, and was the cause of much confusion and many failures at first, and possibly may be of some in the present day.

Produces no  
security against  
small-pox.

$\gamma$  *E. Vaccinia*  
*inserta*.

Descriptive  
characters.

In the INOCULATED COW-POX from genuine virus, the pathognomonic signs are the following:—vesicle single, confined to the puncture; cellulose; bluish-brown in the middle; fluid clear and colourless to the last; conereting into a hard, dark-coloured scab after the twelfth day.

Time limited  
for taking the  
fluid.

In propagating the disease from the inoculated vesicle, the fluid should be taken before the ninth day, and from as early a period as it can be obtained. After the ninth day, it is usually so inactive as not to be depended upon.

Test of ge-  
nuineness from  
transparency.

If the fluid be not transparent, it forms a decisive proof, either that it is spurious or imperfect. The puncture should be made as superficially as possible; for if much blood be drawn, the fluid may become so diluted as to be rendered ineffective, or may be entirely washed away.

Inoculated  
cow-pox milder  
than in its  
natural state.

As small-pox by inoculation is uniformly a far milder disease, and accompanied with a smaller crop of pustules, than when received naturally, cow-pox by inoculation undergoes a like change. There is sometimes a little increased quickness of pulse and constitutional indisposition; and, in very rare instances, a few pustules have been thrown forth around the areola or even on the limbs; but, with these occasional exceptions, the eruption, as already noticed, is confined to the single vesicle produced by the puncture, and there is scarcely any perceptible fever.

Progress of the  
disease.

The general progress is as follows. The puncture disappears

soon after the insertion of the lancet; but, on the third day, a minute inflamed spot becomes visible. This gradually increases in size, hardens, and produces a small circular tumour, slightly elevated above the level of the skin. About the sixth day, the centre of the tumour shows a discoloured speck formed by the secretion of a minute quantity of fluid; the speck augments in size, and becomes a manifest vesicle, which continues to fill and to be distended till the tenth day: at which time it displays in perfection the peculiar features that distinguish it from the inoculated variolous pustule. Its shape is circular, sometimes a little oval; but the margin is always well defined, and never rough or jagged; the centre dips, instead of being polarised, and is less elevated than the circumference.

About the eighth day, when the vesicle is completely formed, the disease exhibits something of a constitutional influence; the arm-pit is painful, and there is perhaps a slight headach, shivering, lassitude, loss of appetite, and increase of pulse. These may continue in a greater or less degree for one or two days, but always subside spontaneously, without leaving any unpleasant consequence. During the general indisposition, the vesicle in the arm becomes surrounded with a circular inflamed halo or areola, about an inch or an inch and a half in diameter, which is the pathognomonic proof of constitutional affection, how slightly soever the internal symptoms may show themselves. After this period, the fluid in the vesicle gradually dries up; the surrounding blush becomes fainter, and, in a day or two, dies away imperceptibly; so that it is seldom to be distinguished beyond the thirteenth day from inoculation. At this time, the vesicle hardens into a thick scab of a brown or mahogany colour; and, if not separated antecedently by violence or accident, falls off spontaneously in about a fortnight, leaving the skin beneath perfectly sound and uninjured. The entire progress of the inoculation scarcely opens a door to any medical treatment whatever. No preparatory steps are called for, as in small-pox; and all that can be necessary is a dose or two of some aperient medicine, if the constitutional indisposition should be severe or troublesome.

[Besides the above described circular inflamed areola, as a test of vaccination having extended its effects to the system, another criterion has been suggested by Mr. Bryce: whose experiments prove, that if, during the regular progress of cow-pox, a second inoculation be performed a certain number of days after the first, the affection produced by this second inoculation will be accelerated in its progress, so as to arrive at maturity, and again fade, at nearly the same time as the affection arising from the first inoculation. About the end of the fifth, or beginning of the sixth day, from the first vaccination, is the period preferred for the experiment. \*]

There is a variety of vaccinia, denominated DEGENERATE COW-POX by Sir Gilbert Blane in his evidence upon this subject before the Committee of the House of Commons, of which the following may be regarded as the character. Produced by inoculation; vesicle amorphous or uncertain; fluid often straw-coloured or purulent; areola absent, indistinct, or confused with the vesicle;

GEN. II.  
SPEC. III.  
γ E. Vaccinia  
inserta.  
Advance of the  
vesicle.

Constitutional  
affection.

Therapia.

Bryce's crite-  
rion of the  
system being  
affected.

δ E. Vaccinia  
degener.

Distinctive  
characters.

\* See Bryce's Practical Obs. on the Inoculation of Cow-pox, 2d edit.



GEN. II.  
SPEC. III.  
δ E. *Vaccinia*  
degener.

Cause of the  
degeneracy not  
known.

Possesses no  
prophylactic  
power.

Vaccine virus  
undergoes a  
spontaneous  
change from  
various causes.

Genuine cow-  
pox has some-  
times failed in  
preventing  
small-pox ;  
but still influ-  
ences its cha-  
racter, and  
renders it  
milder.

Many cases of  
failure may be  
accounted for ;  
but by no  
means all.

A plurality of  
punctures not  
necessary.

scab formed prematurely. The cause of this degeneracy has not yet been sufficiently pointed out ; but it is now well ascertained, that inoculation from this species will not prevent the small-pox ; and hence a variety of mistakes in the early practice before the fact was discovered.

Vaccine virus seems to undergo a spontaneous alteration in a certain period of time, whatever be the caution with which it is preserved ; but there are some circumstances that seem to favour this alteration more than others, although we know but little of the nature of these circumstances. Even in passing through the human subject in the form of inoculation, it appears to be modified, and to be rendered milder ; for a person immediately inoculated from the infected cow uniformly suffers more than one person inoculated from another. It has been proved, however, that the fluid loses nothing of its specific power after a certain number, and even a long series of transmissions from individual to individual ; for cows have been inoculated with it in this state of repeated descent, and have exhibited the disease in all its natural violence. Yet, if the second variety be a modification of this disease, and not a distinct eruption, it bears witness to a change in the qualities of the virus taking place in the animal itself from some undiscovered cause.

It ought also to be stated, that the genuine cow-pox itself has not proved a permanent prophylactic in particular habits or idiosyncrasies, of the nature of which, however, we know nothing. But the cases in which it has failed are very few ; and, in almost every instance, the small-pox occurring afterwards seems to have been changed from its natural course, and rendered milder and of shorter duration ; the pustule rarely exceeding the fifth day before it has begun to turn, and the fluid generally passing at once from an ichorous or limpid into a concrete or indurated state, without the intervention of pus. While, therefore, the absolute infallibility of the prophylactic power of cow-pox inoculation is no longer to be maintained, enough still remains in support of its pretensions of being one of the most important discoveries in medicine, and one of the greatest blessings that has ever been conferred on mankind ; as has been sufficiently proved in an admirable article published by the French Imperial Institute, and drawn up by three of its brightest ornaments, MM. Berthollet, Percy, and Halle, of the date of August 17., 1812.

For the failure of success, in many hundreds of instances that have been triumphantly brought forward by its enemies, there is no difficulty in accounting ; but there are others which are not to be disposed of in the same manner, and which irrefragably establish its inefficacy from causes that elude all explanation. It was at one time conjectured by our own National Vaccine Establishment, that many of these cases of failure were to be ascribed to the use of a single puncture alone, in consequence of which two or more punctures were recommended on each arm. This hypothesis, however, seems now to be abandoned ; and indeed, after the numerous and cautious experiments upon the subject of inoculation for the small-pox by Camper, which have abundantly shown, that a single effective puncture proves as secure, and produces as large a crop of pustules, as any number up to seven, which was

the highest he thought worth while to try \*, it is not a little singular, that it should ever have been adopted; and the observation of Professor Thomson is far more worthy of attention. "I have not been able," says he, "to discover, after the most minute attention, that any difference of effect whatever in the modifying power of vaccination has depended upon the skill of the operator, or upon his peculiar mode of performing the operation." † The real merits of the case, however, are summed up with great candour and judgment in the following passage of a subsequent report of the public establishment just alluded to. "After every reasonable deduction, we are compelled to allow, that too many cases still remain on undeniable proof, to leave any doubt, that the pretensions of vaccination to the merit of a perfect and exclusive security in all cases against small-pox were admitted at first rather too unre-servedly. Yet the value of his important resource is not disparaged in our judgment: for, after all, these cases bear a very small proportion to the number of those who are effectually protected by it." ‡ Eight only are stated by the metropolitan stations, out of nearly 67,000 vaccinated since the establishment of the board: and "we have undoubted proofs, from experience, that, where vaccination has been performed perfectly, small-pox occurring after it is almost universally a safe disease; and, though ushered in by severe symptoms, has hardly ever failed to be cut short, before it had reached that period at which it becomes dangerous to life." §

There was some cause for alarm, however, in the information formerly communicated by Dr. Gregory, physician to the Vaccine Hospital, that the table kept at this establishment manifests, that the prevalence of small-pox after vaccination is on the increase. "From this table it appears," says he, "that, in the year 1810, the proportion of cases of small pox, succeeding vaccination, to the whole number of admissions, was as one in thirty; in 1815 as one in seventeen; in 1819 as one in six; in 1821 as one in four; and during the year 1822, as one in three and a half." § This is, indeed, a fearful diminution of protective power. But, as I have already noticed the wonderful loss of energy which the genuine virus of the cow undergoes in passing through the human subject in the form of inoculation, even for the first time, it is possible, that its increasing inertness may depend upon the innumerable trans-migrations from individual to individual that it has now sustained; and that we ought, at given periods, or after a given number of successive inoculations, to return to the primary fountain for a recruit.

[The hypothesis of a diminution in the energy of vaccine lymph, by its being repeatedly transferred from individual to individual, is entirely destitute of proof. As far as the eye can be trusted, vaccine lymph produces the same sensible effects on the skin, and presents in other respects the same properties at the present day,

GEN. II.  
SPEC. III.  
Emphylisis  
vaccinia.

General merits  
of the case, as  
given in a late  
report of the  
National  
Vaccine  
Establishment.

Cases of failure  
seem neverthe-  
less progres-  
sively to  
increase.

Attempted to  
be accounted  
for, and a  
remedy  
proposed.

Hypothesis of  
deterioration of  
lymph not  
tenable.

\* *Dissertatio de Emolumentis et optimo Methodo Insitionis Variolarum.* Groning. 1774.

† *Historical Sketch, &c.* p. 398.

‡ *Report of April 12. 1821.*

§ *Cursory Remarks on Small-pox, as it occurs subsequent to Vaccination, &c.* Medico-Chir. Trans., vol. xii. part ii.

GEN. II.  
SPEC. III.  
Emphlysis  
vaccinia.

which it did in 1799 and 1800. "I know, in point of fact," says Dr. Thomson, "that the vaccine virus, which has been used at the Royal Public Dispensary here and in other parts of Scotland for a series of eighteen years, still continues to produce, in those who are inoculated with it, the very same appearances which it produced on the first trials that were made with it, and that these appearances agree exactly with those, which have been delineated and described by Dr. Jenner as characteristic of cow-pock." \* As an anonymous critical writer well remarks, the supposition of a change in the anti-variola power of cow-pock is inconsistent with the historical facts of the case. It is not the fact, that vaccination fails to afford the protection against small-pox which it once did. Vaccination never afforded perfect or absolute immunity from small-pox contagion; and it furnishes at the present moment as much security as it ever did. Its influence was indeed exaggerated, and it was supposed to be an absolute preventive of small-pox, because persons, who had undergone vaccination, were found insusceptible of the inoculated small-pox. At the era of the introduction of vaccination, it so happened, that no great small-pox epidemic existed, and there was consequently little or no atmospheric contagion to communicate the disease in the most effective mode. As soon, however, as the variolous contagion began to prevail epidemically, it was found, not that vaccination had lost its power, but that it never possessed more than a relative influence over small-pox. The correctness of this conclusion, it is argued, appears not only from the results of the experiments performed by Dr. Woodville in the Small-pox Hospital of London in 1799, but from the phenomena of the epidemic of 1816, 1817, and 1818, in various parts of the country, and even in several countries of Europe. It was then observed, that the persons who had undergone vaccination at the time when the practice was first introduced, and who consequently had been vaccinated with lymph which, according to the hypothesis of deterioration, must have been in its original purity and strength, were not less liable to small-pox, and suffered the disease with no less severity, than those who had been vaccinated only a few months before, and at all intermediate periods. Dr. Thomson has seen several instances, and heard of others, in which the varioloid disease, during its prevalence in Scotland, had attacked individuals who had been inoculated, at an early period of the practice, with vaccine matter obtained from the most authentic sources. † On the whole, the conclusion is unavoidable, that, unless it could be shown, that the occurrence of small-pox in the persons of the vaccinated was confined exclusively to those who had been subjected to this process within the last few years, the hypothesis of deterioration in the lymph, and change in its properties, must be rejected. ‡

With respect to Dr. Gregory's report, it merits particular notice, that it does not pretend to give an account of *the average number of cases of small-pox after vaccination in society at large*, but only the proportion of such cases in the total number of admissions into the Small-pox Hospital. The proportion might, therefore, partly de-

\* An Account of the Varioloid Epidemic, &c. p. 315.

† Id. p. 316.

‡ Edin. Med. and Surg. Journ., No. lxxxix. p. 391. et seq.



GEN. II.  
SPEC. III.  
Emphlysis  
vaccinia.

pend upon what cases were fortunate enough to be admitted; and, if all that applied were received, the increasing number of examples of small-pox, after real or *presumed* vaccination, only proves that such cases are becoming more common. As a material deduction also from the alarming tenor of this report, it is to be recollected, that the circumstances taken as a criterion of the parties having undergone vaccination, are not such as a cautious reasoner would consider by any means conclusive. "All cases," says Dr. Gregory, "are here entered as having undergone vaccination, *where the cicatrices were apparent*, or (if that criterion were wanting) *where the patient had a distinct recollection of the arm having risen*, and of the general progress of the disease."\* Neither the scar, the patient's own recollection and judgment of the progress of the disease, nor even those of his friends, for vaccination is generally done upon infants, can be entitled to absolute confidence. The editor of this work has had occasion to see two *supposed* examples of small-pox after vaccination; but, when the history of the cases was enquired into, the only inference that could be depended upon was, that the parties had been inoculated in their infancy with supposed vaccine lymph; but no particulars of what followed the inoculation could be obtained from the surgeons who performed the operation, and saw the progress of the vesicles. As for the value of unprofessional evidence on such points, and of a conclusion drawn from the look of the cicatrix, which may follow any festering sore or slough consequent on a puncture, it is not what ought to be rated too high. In short, nothing can be implicitly depended upon but the history and all the particulars of the alleged vaccination, delivered by a well-informed medical practitioner.]

The only case that has ever occurred to myself, in which vaccination has not seemed to produce any influence whatever upon the character of subsequent small-pox, is one I was attending while writing the first edition of this work. The patient was Mr. Alfred Phillips, of Christ's College, Cambridge, about twenty years of age, who had been vaccinated when an infant by Dr. Jenner. The eruption was of the distinct variety, but, for this variety, as full as possible over the whole of the face, body, and limbs; the fever had been very considerable, and every part was severely hot, sore, and tumefied, so that the eyes were nearly closed, and always opened with difficulty in the morning; and the spaces between the pustules, which, however, were few and small, were of a fiery red. The pimples made their appearance on the third day from the accession of the fever; they ripened regularly, and were, on the eighth day of the eruption, very large, and a few of them just beginning to turn brown on the apex, so that it is not necessary to follow up the description any further. [The editor has seen two cases, in which small-pox was exceedingly severe after *presumed* vaccination, and not at all modified by the influence of the effects of the latter disease on the system.]

Singular case in which vaccination produced no influence on subsequent small-pox.

It is possible that there are other animal poisons, which may in like manner act as a prophylactic against small-pox, and destroy the susceptibility to this disease in the human frame: for the same effect seems to have followed from inoculation with the sanious discharge from the heels of horses afflicted with the disease called

Other animal poisons may possibly also possess a like power,

\* See Med. Chir. Trans., vol. xiii. p. 325.

GEN. II.  
SPEC. III.  
Emphlysis  
vaccinia.

as grease on  
the heels of  
horses, sup-  
posed by Jenner  
to be the source  
of cow-pox, but  
erroneously.

But other  
prophylactics  
unnecessary.

*grease.* And Dr. Jenner, who, on his first directing his attention to the nature and effects of cow-pox, applied himself also to this subject\*, felt persuaded, at that period, that the two fluids of cow-pox and of grease from the heel of a horse are precisely the same, and capable of affording a like emancipation. He conceived the sanious fluid of the grease to be the original disease, and the cow-pox in the cow itself to be nothing more than a casual inoculation, produced by the cows lying down in a meadow where the affected horse had been previously feeding, and her udder coming in contact with the discharge which had dripped on the grass and lodged there: and he endeavoured to show the identity of the fluids by the identity of their effects in respect of the small-pox. So far as can be judged from the few cases before us, performed, indeed, in different countries, but still few in respect to the number necessary to establish a positive proof, grease-pox seems to have succeeded as well as cow-pox; and hence blacksmiths and farriers, who have been infected by the grease, have been for ages considered as generally unsusceptible of variolous contagion; and it is possible, therefore, that there may be, as already observed, other animal poisons possessed of a similar power. But it is not necessary to search for them; none can surpass and none be expected to equal the cow-pox process in respect to cleanliness, simplicity, and little disturbance to the system; while, on the contrary, the mere idea of using the matter of grease from the horse's heel excited from the first so deep and extensive a disgust, that cow-pox inoculation had nearly fallen a sacrifice, from the supposed union of the two diseases. It was fortunate, therefore, for Dr. Jenner, and the triumph of his discovery, that a minuter attention to the subject gave sufficient proof, that there was no foundation for his opinion; and that, whatever be the prophylactic power of the matter of the disease called grease, this disease is by no means the origin of the natural cow-pox, and has no connexion with it.

[To the foregoing account, the editor subjoins a summary of certain important inferences, deduced from the researches of Dr. Thomson, Mr. Cross, Dr. Stoker, Dr. Barnes, and others, as laid down by the anonymous critic already quoted.†

1st. Though the action of cow-pox on the human body renders it very nearly, if not altogether, unsusceptible of inoculated small-pox, it does not extinguish its susceptibility of small-pox through the medium of atmospheric contagion, particularly when the disease prevails extensively as an epidemic.

2dly. The action of cow-pox diminishes this susceptibility very considerably, and (mostly) renders the action of small-pox on the human body, when it takes place, much less severe; changing very completely the character of the disease, and depriving it of its usual malignity.‡

3dly. One attack of small-pox diminishes, but does not extinguish, the susceptibility to a second attack in the same individual. This second attack may appear either in the form of regular small-pox, or in the anomalous or spurious forms, to which the names of chicken-pox, sheep-pox, swine-pox, siliquose-pox, bladder-pox, &c.

\* Enquiry into the Causes and Effects of the Variolæ Vaccinæ, pp. 27. 37.

† Edin. Med. Journ., No. lxxxix.

‡ Thomson, p. 87.

have been applied. In general, if the first attack is regular small-pox, the second is one or other of the irregular forms, and *vice versâ*. Early life predisposes to these attacks.

4thly. The full and complete action of cow-pox diminishes the susceptibility to small-pox, and, in the majority of cases, modifies its action in a much greater degree than a previous attack of small-pox itself does. No facts warrant the conclusion, that this modifying or controlling influence of the vaccine action is altered by the interval of time from the date of vaccination.\*

5thly. While the practice of inoculating small-pox continues, it is injurious in perpetuating and disseminating the infection of a dangerous, severe, and not unfrequently a fatal disease.

6thly. The substitution of cow-pox, by diminishing the extent of the operation of this infection, tends indirectly to diminish the disease generated by it, and the evils resulting from it. † ]

GEN. II.  
SPEC. III.  
Emphlysis  
vaccinia.

## SPECIES IV.

### EMPHLYSIS VARICELLA.

#### WATER-POX. ‡

VESICLES SCATTERED OVER THE BODY; GLABROUS; TRANSPARENT; PEA-SIZED; IN SUCCESSIVE CROPS WITH RED MARGINS; PELLICLE THIN; ABOUT THE THIRD DAY FROM THEIR APPEARANCE BURSTING AT THE TIP, AND CONCRETING INTO SMALL PUCKERED SCABS, RARELY LEAVING A CICATRIA.

The water-pox appears under the four following varieties, distinguished chiefly by the shape of the pimple: —

GEN. II.  
SPEC. IV.

- |                                       |  |
|---------------------------------------|--|
| α Lentiformis.<br>Chicken-pox.        | Vesicles lentil-shaped, or irregularly circular, flattened at the top; fluid, at first pellucid, then whitish; afterwards straw-coloured.    |
| β Coniformis.<br>Swine-pox.           | Vesicles acuminated; fluid pellucid throughout.  |
| γ Globularis.<br>Hives.               | Vesicles globular and larger; fluid at first whey-coloured, afterwards yellowish.  |
| δ Corymbosa.<br>Clustering water-pox. | Vesicles clustering upon a common, but broader base; redder at the first, and later in appearance; febrile symptoms outlasting the eruption. |

\* Thomson, p. 34.

† By many persons cow-pox is believed to be nothing more than a modification of small-pox, which is a disease that will certainly affect the cow. Clothes have been taken from patients labouring under small-pox, and laid on cows, and they have had the disease called cow-pox. If, then, vaccinia be really small-pox modified, we cannot wonder, as Dr. Elliotson has observed, that it should generally afford immunity from the latter disease to those who have once had it. The cow-pox, however, is far milder than small-pox, and strictly a contagious disease, not, like the latter, infectious. See Dr. Elliotson's Lect. at Lond. Univ. is published in Med. Gaz., vol. xi. p. 305. — Ed.

‡ Little Small-pox.



GEN. II.  
SPEC. IV.  
Emphyysis  
varicella.  
Varieties  
occasionally  
intmixed;  
and sometimes  
mistaken for  
small-pox.  
Hence occa-  
sionally serious  
evils.

The two dis-  
eases formerly  
often con-  
founded.

Chicken-pox  
distinguished  
from small-  
pox.

Fever often  
slight;

but not always.

Several of the varieties are sometimes intermixed, and the fluid, about three days after the eruption, occasionally becomes thickish as well as yellowish in the first and third, and possesses a purulent appearance \*; whence, in various instances, they have been mistaken for small-pox. The eruptive fever in chicken-pox is also sometimes considerable; and hence another cause of the same mistake, a mistake that has not unfrequently led to serious and even fatal consequences, by putting those who have had the disease off their guard against variolous infection. And where this error has been committed, and the small-pox has afterwards been received, it has led to a second mistake, by inducing the patient to believe, that he has had the small-pox a second time.

The two diseases, indeed, were long confounded by physicians of the highest character: they were regarded as alike by Morton; and even in Sauvages, varicella is described under the name of *variola lymphatica*.† This, however, is a subject we shall further examine into under SMALL-POX.‡ Suffice it for the present to observe, that varicella is *adequately* ascertained to originate from a peculiar specific contagion; and the characters, by which it is sufficiently distinguished from small-pox, are that its fluid, except in a few anomalous cases, is limpid throughout; the disease, in short, is vesicular; and that, as early as the third or fourth day from the eruption, it concretes into crusts, which are thrown off without indenting the cutis§; while, in small-pox, the fluid consists of pus as soon as formed, and does not concrete into crusts till the seventh day, and often much later. Like the small-pox, it does not attack the same person a second time, excepting in a few anomalous constitutions, that establish rather than oppose the general rule. "I wetted a thread," says Dr. Heberden, "in the most concreted pus-like liquor of the chicken-pox which I could find, and, after making a slight incision, it was confined upon the arm of one who had formerly had it: the little wound healed up immediately, and showed no signs of any infection."||

In the ordinary course of the first three varieties, the pyretic symptoms are so slight as not to require medical attention; and sometimes there is no fever whatever. The eruption makes its appearance chiefly on the back, and is often confined to it; and the general number of vesicles vary from 20 to 200. I have sometimes, however, known the eruption preceded by almost as severe febrile signs of shivering, sickness, headach, and pain in the limbs, as that of small-pox, but the symptoms have always subsided when the vesicles have appeared.

\* Frank, De Hom. Morb., tom. ii. p. 270.

† See upon this subject the remarks under Emphyysis Variola or Small-pox, Gen. III. Spec. 1. of the present Class and Order.

‡ Gen. III. Spec. 1. of the present Order, Emphyysis Variola. With regard to the question, whether varicella is only a mild and modified form of small-pox, Dr. Elliotson thinks that we are not in possession of all the information required to enable us to deliver a positive opinion. — Ed.

§ After this disease Dr. Elliotson has frequently seen cethyma and rupia, and pitting take place, in the same manner as after small-pox. He had the small-pox himself, and was not pitted at all, but the chicken-pox came afterwards, and left several pits. See Lect. at Lond. Univ. as published in Med. Gaz., vol. ii. p. 308. — Ed.

|| Medical Transactions, vol. i. art. xvii.

In this ease, an active purge should be administered, succeeded by some diluting drink ; and the patient should be confined to a quiet, spacious, and well ventilated room, with a cool dress, till the febrile symptoms have left him.

For the fourth variety, I am entirely indebted to the observant and indefatigable eye of Dr. Heberden ; for it has never occurred to me, nor is it to be found in the table of the Nosologists. " This disorder," says he, " is preceded for three or four days by all the symptoms which forerun the chicken-pox, but in a much higher degree. On the fourth or fifth day, the eruption appears, with very little abatement of the fever ; the pain likewise of the limbs and back still continues, to which are joined pains of the gums. The pocks are redder than the chicken-pox, and spread wider, and hardly rise so high, at least not in proportion to their size. Instead of the little head or vesicle of the serous matter, these have from four to ten or twelve. They go off just like the chicken-pox, and are distinguished from the small-pox by the same marks : besides which, the continuance of the pains and fever after the eruption, and the degree of both these, though there be not above twenty pocks, are, as far as I have seen, what never happen in the small-pox." \*

GEN. II.

SPEC. IV.

Emphlysis  
varicella.

Treatment.

Corymbosæ  
variety, copied  
from Heber-  
den.

## SPECIES V.

### EMPHLYSIS PEMPHIGUS.

#### VESICULAR, OR BLADDERY FEVER.

VESICLES SCATTERED OVER THE BODY ; TRANSPARENT ; FILBERT-SIZED ; WITH A RED INFLAMED EDGE, BUT WITHOUT SURROUNDING BLUSH OR TUMEFACTION ; ON BREAKING, DISPOSED TO ULCERATE ; FLUID PELLUCID, OR SLIGHTLY COLOURED ; FEVER A TYPHUS.

THE term *pemphigus* is derived from the Greek πέμφιξ, " flatus, bulla," and hence *inflation*, bladder, bubble. The idea of flatulency, however, is seldom connected with this disease in modern medicine, though very generally in ancient. The term, in the sense in which it is now commonly understood, was, perhaps, first employed by Sauvages, and has since passed into common use. It is still doubted by many, whether pemphigus is entitled to be considered as a distinct and idiopathic disease ; and whether all its varieties and modifications may not resolve themselves into certain peculiarities of erysipelas or pompholyx, the latter of which consists of similar vesicles, or bullæ, without fever ; or into mere symptoms of typhus or plague. Gulbrand appears to have been of the former opinion ; and hence he has denominated the disease *erysipelas vesiculare* † : Dr. Cullen seems to have been of the latter at the time of drawing up his definition, and still later, at that of drawing up his First Lines, in consequence of which he dismisses it, in a single paragraph, as an affection concerning which he can say

GEN. II.

SPEC. V.

Origin and  
import of the  
specific term.Whether an  
idiopathic  
disease ; a  
variety of  
erysipelas, or  
pompholyx ?

\* Med. Trans., ut suprà.

† Act. Soc. Med. Hafn., tom. i.

GEN. II.  
SPEC. V.  
Emphlysis  
pemphigus.

nothing. But the fourth edition of his Synopsis contains a sub-joined note, which intimates that his opinion was altered in consequence of his having seen a patient shown him by Dr. Home, and who was labouring under this disease, as an idiopathic affection, at the time. And when to this we add the authority, not merely of the earlier writers, Bontius, Seliger, and Langhans, but of Frank, Withers, Clarkson, Christie, Ring, Braune, and Dr. Stewart of Aberdeen, it would be unpardonable not to allow it a distinct place in a general system of nosology.\*

Upon a careful review, it appears to offer the three following varieties, which run parallel with those of Dr. Willan, though not exactly taken from him:—

α Vulgaris.

Common vesicular fever.

Vesicles appearing on the second or third day, occasionally not till the fifth or sixth; in successive crops; often extending over the mouth and intestinal canal; fluid, on bursting, yellowish; some of the vesicles livid, with a livid base.

β Glandularis.

Glandular vesicular fever.

Preceded by tumefaction of the neck and throat; vesicles chiefly seated on the fauces and conglobate glands; occasionally producing abscesses; highly contagious.

γ Infantum.

Infantile vesicular fever.

Vesicles irregularly oblong, with livid edges and commonly flattened tops; appearing successively on different parts of the surface in infants a few days after birth; on breaking, purplish.

We shall have occasion to observe, under VARIOLA, that Frank, who made a different division of pemphigus, undertook to include under it varicella, crystalline, and horn-pox, and many of the forms of disease which have been denominated spurious small-pox.

The FIRST VARIETY, or common pemphigus, is the *pemphigus major* of Sauvages, a very marked case of which is given in a communication of Dr. David Stewart to Dr. Duncan of Edinburgh.† It appeared on a young private of the seventy-third regiment, who had for a fortnight or three weeks antecedently been unwell from a sudden retrocession of measles, produced by an exposure to cold, and afterwards to a damp unventilated apartment. He was received into the hospital at Aberdeen, April 15,

Description.

\* Pemphigus may make its appearance as an idiopathic disease, or as sympathetic of some visceral inflammation; or its bullæ may occur during the course of other diseases, more especially those of the skin, principally erysipelas, herpes, prurigo, scabies, and varicella. It is asserted by some writers, that the bullæ of pemphigus are occasionally found on the mucous membrane of the stomach and intestines. Rayer admits the occasional existence of bullæ on the mucous membrane of the mouth, but denies their existence in the stomach and intestines. The case recorded by Dr. Dickson disagrees with Rayer's view, though it was certainly unconfirmed by any post-mortem examination, the patient having recovered. Dr. Corrigan in Cyclop. of Pract. Med., art. PEMPHIGUS. — Ed.

† Edin. Med. Comment., vol. vi. p. 79.



at which time he complained of headach, sickness, oppression about the præcordia, thirst, sore throat, difficulty of swallowing; his tongue was foul, his skin hot, pulse from 110 to 120, rather depressed. The whole surface was interspersed with vesicles of the size of an ordinary walnut; especially the breast and arms. In the interstices, the appearance of the skin was natural; and the distance from one vesicle to another was from half an inch to a hand's breadth or more. The disease did not seem to be contagious, as the patient was a solitary instance of it, both where he resided before and after his reception into the hospital. His chief medical treatment consisted in bark and port-wine, with acidulated drinks; many of the vesicles broke, and discharged a bloody and most offensive ichor; the cutis, upon a rupture of the vesicles, was for the most part sound, of a deep red hue, and in some places livid. A new cuticle was gradually produced: and on April 27., being twelve days from his reception into the hospital, he was dismissed perfectly cured.

GEN. II.  
SPEC. V.  
a E. Pemphigus vulgaris.

Treatment.

In this case, the bullæ do not seem to have reached below the throat in an internal direction; nor lower than this region in the severer case described by Seliger. In the first instance, the vesicles appeared abruptly, and had burst and were healed in seven or eight days. In Seliger's case, they issued more gradually, and in successive crops, ran through a longer period, and were not healed till the twenty-first day.\* Dr. Frank gives a case of a like kind, that continued to migrate over different parts of the body for sixteen days, accompanied with difficulty of breathing, subsultus, and pain at first in the region of the liver, but afterwards in the chest, assuming the guise of peripneumony.† In a case apparently of the same kind, published by Dr. Dickson, there is evident proof of the disease having extended from the fauces throughout a considerable part of the alimentary canal: here also the vesicles appeared in successive crops, especially on the ninth, tenth, and thirteenth day, each crop continuing four or five days before it burst; the fever was accompanied with delirium, but abated on the fifteenth day on the appearance of the catamenia, and the bullæ healed in succession without any trouble.‡ None of these appear to have been contagious.§

General remarks.

Singular anomalies.

I cannot speak of pemphigus from personal knowledge; but, in all the above instances, the fever was of a low or typhous type; and the disease seems to have approached the nature of erysipelas, and was treated successfully by the means usually employed for the latter. ||

\* Ephem. Act. Nat. Cur., Dec. i. ann. viii. obs. 56.

† De Cur. Hom. Morb. Epit., tom. iii. p. 266.

‡ Trans. of Royal Irish Acad., vol. i. 1787.

§ In the abdominal viscera, the changes most frequently observed in fatal cases of pemphigus, are redness, softening, and ulcerations; the ordinary effects of gastro-enteritis. Dr. Corrigan, op. cit.

|| According to Dr. Corrigan, the fever which sometimes precedes or accompanies the bullæ of pemphigus, makes no approach to the regularity of the fevers of measles, or scarlatina; but is, on the contrary, very irregular in its nature and duration. It may be a short inflammatory fever, or of a low typhoid type, or it may assume the characters of an intermittent. The period of the fever, when the eruption occurs, seems also to be equally uncertain. See Cyclop. of Pract. Med., art. PEMPHIGUS. — Ed.

## GEN. II.

## SPEC. V.

β E. Pemphigus glandularis.

## Description.

For what little knowledge we possess of the SECOND OR GLANDULAR VARIETY, the contagious pemphigus of Dr. Willan, we are chiefly indebted to Dr. Langhans, a Swiss physician, who observed it in the spring and through the summer of 1752, in the lowlands of his own country.\* It commenced with a sense of tension in the fauces, and a slight pain spreading behind the ears to the anterior part of the thorax, accompanied with the symptoms that mark the first stage of fever, but not succeeded by a hot fit. A greenish bilious matter was sometimes thrown up from the stomach, and the pulse was feeble. The neck swelled externally and internally about the fauces, bullæ were observed of the size of a filbert, producing little pain, and containing a yellow ichor of an offensive smell. Soon afterwards similar vesicles were found scattered sparingly over the body and limbs, which, if not broken or opened, collapsed on the second, third, or fourth day, and dwindled into whitish crusts. During this period, the tumour of the neck often suppurated, or other suppurating tumours formed in some of the conglobate or conglomerate glands, as the parotid, axillary, or inguinal; and the virus of the disease being thus discharged by different outlets on the surface of the body, the patient recovered. But if, before this translation to the surface, there were a sense of weight and anxiety about the thorax, a large abscess was formed internally, and on its bursting the patient died from suffocation. Or, if the matter lodged in the external vesicles were by accident repelled before any glandular suppuration took place, he died almost as suddenly.

Has disappeared like the sweating sickness.

M. Langhans compares this disease to syphilis, but apparently with little reason; and Dr. Cullen and Dr. Frank, with not much more, to *rosalia paristhmica*. The cause, like that of the sweating-sickness, is altogether unknown, and, like this disease also, after having ravaged with great fatality for a certain but a shorter period of time, happily for Switzerland, and perhaps for all Europe, it vanished, and has been heard of no more. Sauvages, indeed, quotes a description of pemphigus from Thiery, which, by some writers, has been supposed to be the same; but the account is so brief, and at the same time so loose and indistinct, that it is impossible either to arrange or reason about it.

Was epidemic, contagious, and very fatal.

The glandular pemphigus of Switzerland, according to M. Langhans, was both contagious and epidemic; so contagious, indeed, as to spread through numerous families with great rapidity, and so malignant, that all persons affected by it died. This last assertion, however, compared with what follows, appears to be a little overcharged; for the author proceeds, as already observed, to point out under what circumstances patients recovered from it; and lays down a remedial process, which, "though at first," says he, "I employed it with anxiety and hesitation, I can now with pleasure recommend to all persons labouring under the complaint, with the most sanguine hope that it will effect a speedy cure."

## Treatment.

This successful practice, as in the sweating-sickness, consisted in exciting a strong determination to the surface by active sudorifics; and at the same time supporting the strength with camphor, and other cardiacs. He commenced his process, however, by

\* Act. Helvet., tom. ii. p. 260.

venesection, which was sometimes repeated, and, where there was danger of an abscess in the lungs, unquestionably with great judgment.

The INFANTILE PEMPHIGUS\* appears, as already noticed, most commonly a few days after birth; but, in one case adverted to by Dr. Willan, as late as ten months after this period. The vesicles show themselves on the neck, upper part of the breast, abdomen, groin, serotum, and inner parts of the thighs. They arise successively, break, and expose a surface that heals with difficulty, and more generally enlarges its boundary, and wears out the little patient with pain, restlessness, and want of sleep. Warm cordials, as camphor and the aromatic confection, with a little port wine negus, form the best means of supporting the strength; and laudanum must be had recourse to, where the want of sleep requires it.

GEN. II.  
SPEC. V.

β E. Pemphigus infanum.  
Description.

Curative process.

## SPECIES VI.

### EMPHLYSIS ERYSIPELAS.

#### ST. ANTHONY'S FIRE.

VESSICATION DIFFUSE: IRREGULARLY CIRCUMSCRIBED; APPEARING IN A PARTICULAR PART OF THE BODY, CHIEFLY THE FACE, ABOUT THE THIRD DAY; WITH TUMEFAC-TION, AND ERYTHEMATIC BLUSH: FEVER USUALLY ACCOMPANIED WITH SLEEPINESS, OFTEN WITH DELIRIUM.

In describing the genus erythema, I endeavoured to point out a distinctive line between that inflammation and erysipelas, which are so often intermixed and confounded even by good writers; and observed that the first bears the same analogy to phlegmon as the last to small-pox. Phlegmon is local inflammation tending to suppuration; erythema local inflammation tending to vesication: small-pox is an idiopathic fever producing a phlegmonous efflorescence; erysipelas an idiopathic fever producing an erythematous efflorescence. Small-pox is always contagious: erysipelas occasionally so: phlegmon and erythema have no such tendency.

[The plan of classing erysipelas with the exanthemata does not receive the universal sanction of medical writers. In particular, Mr. Lawrence does not concur in its propriety. "If we were (says he) to construct a natural arrangement of diseases, we should, perhaps, find sufficient reason for separating erysipelatos affections altogether from the febrile exanthemata. The latter form a natural order, well characterised by the fever preceding the local disease, by their origin from a single specific cause, namely, contagion, by their regular periods of efflorescence and decline, their definite duration, and by their generally affecting an individual only once in his life. Erysipelas (here, it is to be observed, Mr. Lawrence uses the term in the sense of the author's erythema) arises from various causes,

GEN. II.  
SPEC. VI.  
Distinction between the present disease and erythema.  
Illustrated.

\* Sometimes named *gangrenous pemphigus*: it is the *rupia escharotica* of Bateman and Bielt. Dr. Corrigan describes, under the name of *chronic pemphigus*, what Bateman calls *pompholyx diutinus*, and Alibert *dartre phlyctenoides confluyente*. — Ed.



GEN. II.  
SPEC. VI.  
Erythema  
Erysipelas.

among which it is doubtful whether contagion is to be included ; it is often not preceded by fever ; its course is various and uncertain, its duration indefinite, and it attacks the same individual repeatedly.\* Now, although the erysipelas of Dr. Good is, in imitation of Cullen, restricted to the febrile disorder that is followed by erythema, or erysipelatous inflammation, as an effect, it must be admitted that it wants many of the striking features pointed out by Mr. Lawrence as characterising exanthemata in general. At the same time, the distinction of erysipelas, as a fever leading to erythema, or erysipelatous inflammation, as a regular event, ought undoubtedly to be discriminated from other cases, in which the local affection comes on first, and whatever disturbance of the system ensues is merely the effect of it.]

Often confounded with cutaneous diseases.  
Distinctive characters.  
Is contagious.

The varieties of this species are very differently given by different writers ; by many of whom they are multiplied most unnecessarily. Dr. Cullen makes even the *herpes Zoster*, or shingles, a variety : but this is strangely to confuse simple cutaneous diseases with idiopathic fevers. For that erysipelas, when genuine, is an idiopathic fever, dependent upon or productive of a specific virus, is clear, because it has often, though not generally, been found contagious, and is capable of propagation by inoculation. "When the acrimonious lymph," observes Dr. Willan, "contained in the phlyctænæ or vesications of a genuine erysipelas is inoculated or casually applied to any slight wound in a person otherwise healthy, it produces febrile symptoms, with a red and painful, but diffuse swelling, analogous to that of the disease from which the virus was derived."† And he has added a case, in which the mother of a young girl, severely affected with this disease, appears to have received it in consequence of having nursed her.

Facts in proof of this offered by Willan :  
by Wells :

Dr. Wells has strengthened the doctrine of its contagious property by a variety of facts and cases, that can scarcely, I should think, be read by any one without conviction.‡ One of his examples extends to four individuals, who received the disease in succession, after direct contact or near approximation with each other ; and another gives us a like chain of not less than six in descent, all of whom, indeed, he did not attend personally, but the history of whom, as communicated to him by one of the affected, was confirmed by Dr. Pitcairn, who had been consulted by two of the rest, and was privy to the general fact. Dr. Pitcairn also communicated to Dr. Wells the following highly important statement in addition : — "A lady, immediately after delivery, was attacked with a fever, which was accompanied with an affection of her skin somewhat like erysipelas ; her child, about three days after its birth, was seized with that species of erysipelas the French call *la gelure*, which first appeared about the pudenda, and afterwards extended itself to other parts of the body, among the rest to the face. Both the lady and her child died, after a few days' illness ; and, about eight days after the death of the child, the lady's mother and servant-maid, both of whom had attended it during its illness, were attacked

by Pitcairn :

\* Med. Chir. Trans., vol. xiv. p. 34.

† On Cutaneous Diseases, p. 514.

‡ Transact. of Soc. for the Improvement of Med. and Chir. Knowledge, vol. ii. p. 213.

with erysipelas of the face, from which both of them recovered." The opinion of Dr. Baillie, as communicated to Dr. Wells on another occasion, is to the same effect; to which Dr. Baillie seems to have been more especially led, by having observed in "a part of the years 1795 and 1796, that the erysipelas of the face was much more frequent in St. George's Hospital than he had ever before known it to be: that many persons were attacked after they came into the hospital, and that the number in a particular ward was much greater than in any other."\*

GEN. II.  
SPEC. VI.  
Emphlysis  
erysipelas.  
and by Baillie.

This last remark seems to give some countenance to the further opinion that erysipelas becomes occasionally an epidemic, or operates through the medium of the atmosphere, as well as by direct contact; though, whether the atmosphere, in this case, be impregnated with the specific miasm of the disease, or merely predisposes the body to a more ready generation of it, has no more been determined than in the case of various other exanthems that evince a like power. Dr. Parr asserts broadly, "we have four times seen it epidemic; and more than once we have had reason to suspect, that it was communicated by infection."†

Probably at  
times an  
epidemy.

At first sight it might seem easy from these accounts to subdivide erysipelas into the two varieties of contagious and unctagious; but, as it is most probable, that the power of communication depends alone upon the peculiar diathesis of the person who receives it, ns being endowed with a susceptibility of the disease not possessed by others, we can make nothing of this discrepancy: and shall hence examine it under the following varieties, founded upon other circumstances: —

α Local.

Local erysipelas.

Limited to a particular part; the cuticle raised into numerous aggregate distinct cells; or the cells running into one or more blebs or large blisters.

\* See also "Cases illustrating the Contagious Nature of Erysipelas, and its Connection with a severe Affection of the Throat," by J. Stevenson, M.D., in *Edin. Med. Chir. Trans.*, vol. ii.

† Dict. in verbo.—The doctrine of erysipelas being contagious, is much more doubted at the present day, than that of its being sometimes epidemic, and prevailing extensively in particular situations, seasons, and states of the atmosphere. Some of the cases published by Dr. Stevenson, of Arbroath, to illustrate the contagious nature of erysipelas (see *Edin. Med. Chir. Trans.*, vol. ii. p. 128. et seq.), appear to the editor to be only an epidemic form of sore throat, sometimes involving the larynx, as described by Bretonneau, and noticed in this work, under the head of bronchlemlitis. The possibility of any textures, except those of the integuments, being truly the seat of erysipelatous inflammation, is doubted by Mr. Lawrence. The editor, however, will not venture to deny Mr. Hunter's position, that, when there is a tendency to this form of inflammation in the habit, every inflammation, whether external or internal, may partake of its character in some respects, and he, for instance, more disposed to spread. Mr. Hunter's opinion, perhaps, has received some support from three cases, mentioned to the Medical and Chirurgical Society of Edinburgh, by Dr. Abercrombie, Dr. Hay, and Mr. Bryce, where the inflammation appeared to have spread from the fauces to the external surface, the part of the skin first affected having been, in the first two cases, at the orifice of the nostrils, and, in the last, at one of the lachrymal ducts. (See *Edin. Med. Chir. Trans.*, vol. ii. p. 135.) The facts published by Dr. Wells, and some others by Mr. Bury, of Farnham (*Med. Gaz.*, July, 1834), are amongst the strongest adduced in support of the occasionally contagious nature of erysipelas. — Ed.

GEN. II.  
SPEC. VI.

β Erraticum.  
Erratic erysipelas.

Travelling in successive patches from part to part: the earlier patches declining as new ones make their appearance.

α E. Erysipelas  
locale.

Distinctive  
characters.

Description.

LOCAL ERYSIPELAS generally exhibits itself on one side of the face, or on one of the limbs. In the former case, the disease begins with coldness and shiverings, which alternate with irregular flashes of heat, and other symptoms of pyrexia. Dull aching pains are felt in the head, neck, and back. The swelling usually appears in the course of the second night or the third day; though I have sometimes known it take place within a few hours after the attack; the redness disappearing when pressed upon by the finger, but returning as soon as the pressure is removed. The eruption fixes on one side of the nose, or the cheek, temple, or forehead; is of a dark red colour, smooth and soft, and attended with a sensation of heat and tingling. The redness and swelling extend gradually over the affected side of the face; and spread, in some cases, to the scalp, and to the side of the neck, or the upper part of the breast. Hence the face appears much disfigured; the mouth is drawn to one side; the eyelids are turgid, and close up the eye; the fever increases, and is often attended with delirium. On the fourth and fifth day, vesications arise on different parts of the diseased surface, especially about the centre; but with an increase rather than a diminution of the fever. The vesicles or bullæ are of different sizes, and have an irregular base. The fluid contained in them is at first clear and watery; it afterwards becomes straw-coloured or opaque, occasionally slightly livid, without losing its transparency. The cuticle gives way in a few places, and the fluid oozes through the cracks. About the eighth or ninth day, and sometimes sooner, the redness changes to a brown or yellowish hue, the bullæ subside, and the cuticle dries and desquamates, or scales off. Occasionally, both sides of the face are affected at the same time; but sometimes the morbid half is separated from the sound by an exact line drawn across the forehead, down the middle of the nose to the chin. The fever subsides about the eighth or ninth day, but sometimes after its cessation it returns suddenly with as much violence as at first, and continues two or three days longer. A sanious fluid, approaching the nature of pus, is sometimes found in parts of the vesication: and from this circumstance Dr. Cullen has distinguished one variety of the disease by the name of *erysipelas phlegmonodes*: and has been copied by Dr. Willan. "A circumscribed cavity," says Mr. Pearson, "containing laudable pus, is never seen in the legitimate erysipelas.\* Where a purulent effusion happens in any considerable degree, it

Erysipelas  
phlegmonodes  
of Cullen.

\* The opinion, that true pus is never formed in phlegmonous erysipelas is contradicted by daily experience; but that the pus is very seldom contained in a circumscribed cavity is a fact particularly noticed by Mr. Hunter. Yet, in phlegmonous erysipelas, as Mr. Lawrence has pointed out, matter is frequently deposited in small separate collections, dispersed irregularly in the cellular texture. While erysipelas is what Mr. Lawrence calls *simple*, that is, confined to the skin, and does not materially affect the subjacent cellular membrane, suppuration does not take place. "It may, however," says Mr. L., "become more severe at one point; and thus we occasionally see the formation of abscess under the skin towards the decline, or after the appearance, of the general erysipelatous redness." Med. Chir. Trans., vol. xiv. p. 5. — Ed.



affords, when the part is examined, a sensation similar to that excited by a quagmire or morass. In that sort of suppuration, which sometimes supervenes to erysipelas, the cellular membrane suffers great injury, and not uncommonly the part is in a gangrenous condition."\*

When the head is the seat of disease, it occasionally swells to an enormous magnitude, and, when the case is attended with delirium, it sometimes proves fatal. [Often, particularly when the head is the seat of erysipelas (says Mr. Lawrence), the sensorium is principally affected, and there is pain and oppression of the head, sleepiness, coma, or delirium. The tongue in such cases becomes dry and brown; but this is frequently owing principally to the circumstance of the patient breathing entirely through the mouth; the pulse is rapid and feeble, and there is great loss of muscular strength; in short, the symptoms at length are those called typhoid. In other cases, the circulation and the nervous system are not much affected; but there are many indications of disordered stomach and bowels, to which the origin of the local affection must be ascribed. But, as the same gentleman has remarked, the local symptoms are preceded and accompanied by fever, which always varies in its character, according to the constitution, age, and general state of health. In the young, strong, and those of full habit, it is decidedly of an inflammatory character; and blood drawn from a vein exhibits the buffy coat in a greater or less degree. In phlegmonous erysipelas, the general and local symptoms are more violent than in simple erysipelas; the redness is deeper, and the tumefaction more considerable; the whole depth of the adipous and cellular textures being loaded with effusion, so that an arm or leg appears of twice the natural size.† As this form of the complaint frequently does not vesicate, and often arises from local injuries, perhaps it cannot properly be classed with St. Anthony's fire, or the erysipelas of our author; but rather belongs to his cases of erythema.] The disturbance of the constitution is generally less violent, when the erythema appears in the extremities, than when it attacks the head. The limbs most affected are the legs, in which, probably from their depending situation, the vesications fill rapidly, and break within twenty-four hours from their first appearance. Salmouth relates a case in which the intumescence extended over the entire frame‡: but this is extremely rare, excepting under the second or migratory form, in which it trails over different parts in succession, till the whole body has been affected.

In the ERRATIC VARIETY, the complaint usually, and particularly in adults, begins its attack in the face, and spreads in succession to the extremities, the patch first formed healing as fresh ones appear below. Sometimes, however, other parts are seized first; and perhaps more frequently so when this variety shows itself in infants; for here the parts about the navel are usually first affected, and the disease winds downward to the sexual organs, which are often very considerably tumefied and inflamed. What, however, is usually denominated the infantile erysipelas, is more commonly

GEN. II.  
SPEC. VI.  
a E. Erysipelas locale.

Influence of age, constitution, and part affected, on the fever.

β E. Erysipelas erraticum.  
Description.

Infantile erysipelas.

\* Principles of Surgery. § 289.

† Lawrence, in Med. Chirurg. Trans., vol. xiv. pp. 6—9.

‡ Cent. i. obs. 32.

GEN. II.

SPEC. VI.

β E. Erysipelas  
erraticum.Erysipelas  
œdematodes,  
and e. gangræ-  
nosum of  
Willan, what.Causes, and  
pathology.Occasionally  
accompanied  
with high  
tonic action.

Illustrated.

a variety of gangrenous erythema, produced, in many instances, by the want of cleanliness, pure air, and nutritive food. The inflammatory blush soon assumes a livid hue, and is sometimes covered with or surrounded by petechiæ: the cuticle is separated to a considerable extent from the cutis, breaks, and exposes a foul and ulcerating surface that almost immediately passes into a state of gangrene. In some instances, nevertheless, these cutaneous efflorescences are probably accompanied with a true erysipelatos fever; for, in lying-in hospitals, the disease is said to have proved occasionally contagious.

The *erysipelas œdematodes*, and *e. gangrænosum* of Dr. Willan, appear to be misnamed, and consequently misplaced. They are more accurately erythemata, and have already been described under the species *erythema œdematosum*, and *e. gangrænosum*.

The usual causes are cold, intemperance, suppressed perspiration, and the other common excitements of fever operating upon an erythematic diathesis, and producing therefore this peculiar efflorescence in connection with the febrile attack. In almost every instance, there is evidently a diminished vascular action; and hence we meet with the disease far most frequently in persons of delicate habits, women, children, and those who have long resided in warm climates. In one instance, it has occurred to me in a strong hearty man, of plethoric form and sanguineous temperament, well known to the world as a public character; but, in this case, the diet had, from the patient's boyhood, been exclusively that of vegetables.

[In the preceding paragraph, our author is speaking, it is to be remarked, not of the causes of the erysipelatos inflammation, but of the fever which induces it as a regular effect, and to which he particularly restricts the term erysipelas. In this particular instance, whatever excites the specific fever, whatever state of the constitution imparts to the general disturbance of the system the peculiarity of its being always followed by the erythema, or erysipelatos inflammation of the skin, must be considered as the cause of the disease. This cause we know not, unless it be admitted, which is not commonly believed, that St. Anthony's fire either depends upon contagion, or, as Dr. Good has said, the usual causes of fever operating upon an erythematic diathesis. The enquiry, therefore, if pursued further, would be into the foundation for the doctrine of contagion, and into the circumstances producing an erythematic diathesis, or, in plain language, a disposition to erysipelatos inflammation. It is certain, that the fever, to which Dr. Good restricts the name erysipelas, is frequently connected with disorder of the liver and stomach.]

It has occasionally happened, and especially where the disease has occurred as an epidemic in some of the high and healthy villages of North Britain, in the heat of a dry summer or autumn, that, instead of diminished vascular action, there has been such a degree of tonic and caustic fever as to call for free venesection from the first, and of this form, a few striking examples have been communicated to the author. So, on the contrary, the small-pox and measles, though ordinarily accompanied with cauma, occasionally evince a typhous type, and demand a tonic plan of procedure.

The mode of treatment may be expressed in few words. Vene-

section was formerly recommended as a part of the ordinary plan, and has been so of late by a few writers. Yet this is to act without discrimination, and to mistake the exception for the general rule. Passing by the modification just adverted to, and those occasional congestions in the larger organs, and especially in the head, which even in typhus, and still more in such forms of erysipelas, demand a prompt and repeated use of blood-letting, I can conceive very few ordinary cases, in which the lancet has a chance of being serviceable; while the application of leeches always exasperates the efflorescence. As a general plan, we should first cool the body by gentle laxatives, and instantly have recourse to a tonic plan. The bark given largely, as long since warmly and judiciously recommended by Bromfield \* and Colly †, has rarely failed of success. Dr. Fordyce was in the habit of giving it, in a dangerous state of the disease, in the proportion of a drachm of the powder every hour. He tried it for twenty years, and with growing confidence. Where, however, there is much evening or night exacerbation, it may temporarily be dropped for some warm diaphoretic, as camphor, with small doses of James's powder, or the spirit or compound spirit of sulphuric ether in saline draughts made with the subcarbonate of ammonia. If the head be much affected, it should be lightly covered with linen wetted constantly with vinegar and cold water, or equal parts of water and the solution of acetated ammonia; and, if the vesications ooze, they should be frequently dusted with finely-powdered starch, or a powder consisting of half starch and half calamine. The diet should be light and of easy digestion. Opiates have rarely succeeded in procuring sleep; and have generally added to the mental irritation.

[From the foregoing observations, it appears, that the author was much under the influence of the doctrine, that the fever, called by him erysipelas, and all kinds of erysipelatous, or, as he terms it, *erythematic*, inflammation, are essentially connected with diminished vascular action and debility. Hence, his general preference to tonic and stimulating remedies. After what has been explained under the head of *erythema*, in a previous section of this volume, p. 59. et seq., it is unnecessary to insist upon the fact, that the local affection is always of an inflammatory nature; that, abstractedly viewed, it requires antiphlogistic treatment; but that, whether this plan should be adopted, or not, must depend upon the stage of the disease, the patient's strength and age, and the type of the fever, whether caumatic or typhoid. Strong, young, and plethoric persons are more frequently attacked with the fever, here implied by *erysipelas*, than our author's remarks would lead us to suppose; and in all such examples, antiphlogistic treatment, including general and local bleeding, purgatives, low diet, &c., is indicated. The application of leeches to erysipelatous parts is found to be perfectly safe. The editor has frequently seen five or six dozen leeches put on the head and face in the course of the first week of the disorder. Nor should free and even repeated venesection be omitted, when the patient is young, strong, or plethoric. An emetic is also frequently of great service in the beginning of the disease, par-

GEN. II.  
SPEC. VI.  
β E. Erysipelas  
erraticum.

Treatment.

Doctrine of  
erysipelas  
being neces-  
sarily connected  
with debility  
erroneous.

\* Medical Communications, II. 4.  
VOL. II.

B B

† Id., II. 3.



GEN. II.  
SPEC. VI.  
Emphlysis  
erysipelas.

ticularly when there is a bitter taste in the mouth, attended with headach, and derangement of the stomach.

Emetics must not be employed at random: when the tongue is red, and the thirst excessive, they do harm; when there are no symptoms of disorder of the stomach, they are neither hurtful nor beneficial; but, when there is bitterness in the mouth, the tongue has a thick white or yellowish fur upon it, without any subjacent or surrounding redness, and the patient has nausea, and eructations, which have the smell of sulphurated hydrogen, emetics are really of great service.\*]

## GENUS III.

### EMPYESIS.

#### PUSTULOUS EXANTHEM.

ERUPTION OF PHLEGMONOUS PIMPLES; GRADUALLY FILLING WITH A PURULENT FLUID; AND TERMINATING IN THICK SCABS, FREQUENTLY LEAVING PITS OR SCARS.

GEN. III.  
Origin of  
generic term.

EMPYESIS is a term of Hippocrates, and is to be found in the fifth book of his Aphorisms. It is derived from the Greek ἐμπύω, or ἐμπύω, "suppuro." The Greek writers also use, and perhaps more generally, εεpyésis, from ἐκπύω, of similar meaning. The same distinction between the terms is made in the present system, as between emphlysis and cephlysis: the former being limited to signify pustular eruptions produced by *internal* and febrile affection, and the latter to signify those that are merely cutaneous or *superficial*, or with which *internal affection is not necessarily* associated.

The genus EMPYESIS contains not more than a single species that has yet been discovered, and that is:—

EMPYESIS VARIOLA.

SMALL-POX.

\* See Andral, Anat. Pathol., tom. ii. p. 224.

## SPECIES.

## EMPYESIS VARIOLA.

## SMALL-POX.

PUSTULES APPEARING FROM THE THIRD TO THE FIFTH DAY;  
SUPPURATING FROM THE EIGHTH TO THE TENTH: FEVER A  
CAUMA: CONTAGIOUS.

WHEN the small-pox first made its appearance in the world, we know not. There is no substantial ground for believing, that the disease was known to the Greeks or Romans. It has been thought, indeed, by some persons, that the former have glanced at it under the name of anthrax or anthrace\*; but, the idea is too wild for serious refutation. It is far better ascertained, that it existed in Asia, and especially in China, for an incalculable period before it was known in Europe; and, from the accounts of the Jesuits, to which we shall have to refer more particularly presently, it is highly probable, that the art of inoculation was practised throughout the Chinese empire, before the natural contagion had reached the European shores. About the middle of the sixth century†, it is supposed to have been conveyed by trading vessels from India to Arabia; and there is no question, that the triumph of the Arabian or Saracenic arms introduced it from Africa into the Levant, Spain, and Sicily.‡

The pathognomonic characters of the genuine small-pox are pus in the eruptions, and a power of propagating itself both by contagion and inoculation. Perhaps, however, there is no exanthem that is so much affected by accidental influences as the small-pox. Idiosyncrasies of various kinds seem to take off all predisposition to the disease, and to render the body inert to its virus; so that many persons possess a natural exemption, and pass through life without ever suffering from it. There are other changes introduced into the constitution from numerous causes, which, though they do not take off all predisposition to the disease in every individual to whom they are applied, afford an entire exemption in many cases, and exercise so controlling a power in others, that the general character of the disease, whenever it makes its attack, is greatly modified, and, for the most part, greatly mitigated; so that the accompanying fever is considerably less violent, the secreted fluid, instead of being a creamy pus, is a limpid ichor, desiccating in three or four days, and so far imperfect in its elaboration, as to be less capable of propagating itself by contagion or inoculation, or of affording an absolute security against a reproduction of the disease in future: whence many persons, from the writings of the Arabians to those of our own day, are said to have suffered from small-pox, not only twice, but even three or four times in succession. In these accounts, mistakes have, perhaps, often been committed as to the species or even genus of the eruption; but, in various instances, the disorder

## GEN. III.

## SPEC.

## History.

Probably not known to the Greeks or Romans.

Known in Asia earlier than in Europe.

Inoculation for it practised immemorially in China.

Conveyed from India to Arabia: and thence to the Levant and Europe generally.

Pathognomonic signs.

No exanthems so much affected by accidents.

Hence some naturally insusceptible of the disease.

Others modify and mitigate it.

Hence often a less elaborate fluid secreted, and less capable of protecting against future attacks.

Whence many are said to have had repeated attacks.

\* Hahn, Variolorum Antiquitates à Græcis erutæ. 1734.

† Mead, De Variolis, p. 3.

## GEN. III.

## SPEC.

Empyresis  
variola.

Of the nature  
of these con-  
stitutional  
changes we  
know nothing :  
of the external  
influences only  
a few.

Virus of cow-  
pox is one of  
these : perhaps  
the most  
powerful.

Virus of grease  
in horses' heels  
appears to be  
another.

Grounds for a  
belief of other  
causes, though  
unknown.

Hence Gaddes-  
den's v. propriæ  
and impropriæ.  
The last dis-  
crepant, and  
hence difficult  
to follow up.

Thomson's  
collection of  
cases, pregnant  
with striking  
anomalies.

has been so narrowly watched, and the judgment of the physician who has described it, been so sound and unimpeachable, as to leave no fair ground for doubt upon the subject.

Of the nature of the constitutional peculiarities that are thus capable of controlling the exanthem, and deflecting it from its ordinary course, we know nothing; and of the causes themselves, which appear to be numerous, we know only a few. The virus of cow-pox, introduced into the system, is now satisfactorily ascertained to be one of these causes, and apparently one of the most powerful. In most cases it affords, as we have already seen, an entire exemption; and, where it does not altogether take off the predisposition, it generally succeeds in giving the disease that modified and mitigated character which has been just noticed. The virus from the ulcerated heels of horses labouring under the disorder called grease\*, seems also capable, as we shall observe hereafter, of producing a similar control. And, as in most of the more extensive epidemics of small-pox, in every age since its first appearance, we have had numerous examples of such modified and imperfect eruptions, varying in almost every diversity of manner from each other, as well as from the regular pustules, but evidently produced by associating with patients affected with the last, and not unfrequently by inoculation itself from pure pus—examples in which neither of these causes have been present—we are compelled to admit, that there are numerous other causes existing, perhaps other diseases existing as causes, to which the bodies of those, who exhibit such modifications, or anomalous and imperfect sorts, have been previously exposed, and are indebted for so modifying a control, of which also, at present, we know nothing.

Rhazes has given numerous examples of these diversities or aberrations of small-pox, or Al-gridi, as he denominates them, though the more common name was Al-jedder (الجدد); and hence the remarks of John of Gaddesden, "notandum quòd variolæ sunt duplices, propriæ et impropriæ.†" The IMPROPRIÆ it is often difficult to follow up or arrange, in consequence of their discrepancies, and especially their resemblances to other kinds of eruption. More commonly, they approximate the form and general character of pemphigus or varicella (chicken pox), and have no doubt often been mistaken for the one or the other, especially the latter, of which the severe variolous epidemics that have of late years, after a long dormancy, spread over Edinburgh‡, Caithness-shire, and various other parts of Scotland, as well as over many parts of the Continent, afford striking examples; as has also the late variolous epidemic among the inhabitants of Columbo, and the Kandyan provinces at Ceylon, as related by Mr. Marshall.§

Many of the cases of this kind, described or collected by Dr. Thomson, to whose indefatigable zeal the profession is under an irremunerable obligation, are peculiarly striking; as they consist of

\* Jenner, Enquiry into the Causes and Effects of the Variolæ Vaccinæ. 1798.

† Ros. Anglio, p. 1044.

‡ Account of the Varioloid Epidemic which has lately prevailed in Edinburgh and other parts of Scotland, &c. By John Thomson, M.D. 8vo. 1820.

§ Some Account of the Introduction of Vaccination among the Inhabitants of the Interior of Ceylon, and of an Epidemic Small-pox which prevailed in the Kandyan Provinces in 1819. By Henry Marshall, Surgeon to the Forces.



families, the different branches of which, receiving it in succession from each other, evinced in turn almost every variety to which the small-pox can make any fair pretension, distinct, confluent, crystalised or varicellous, and horny; and all of which, in many instances, manifested a power of regenerating and propagating the disease in its purest or pustular form, though this was often lost in several of them. The following case, contained in a letter from Mr. John Malloch to Dr. Thomson, is peculiarly entitled to attention. "No case of small-pox had occurred in this town for nine years till last winter, when an idle boy, who was in the habit of wandering about the country, frequenting markets, &c., happened to be at a house, where some of the inmates were said to be ill of small-pox. He himself had been vaccinated some years before. On his return home, he was seized with febrile symptoms, and confined for two or three days to bed, when an eruption similar to chicken-pox made its appearance. Immediately the fever abated, and in a few days more he left his bed, and attended a cattle-market, half a mile's distance from the town, without experiencing any bad consequences. About a week afterwards, one of his master's children was taken ill, and went through the regular stages of small-pox in a mild manner; then a second similarly. A third suffered in a very alarming degree from the confluent kind; a fourth was rather worse than the two first; and the youngest, of eight months old, had what, if the other cases had not occurred, I would, without hesitation, have called chicken-pox: for there was little or no fever, and the pustules were filled with a watery fluid, which was not converted into the purulent appearance of small-pox. None of these children had undergone vaccination."\*

GEN. III.  
SPEC.  
Empyesis  
variola.

Exemplified.

It is very singular that, in the Kandyan epidemic described by Mr. Marshall, while several cases made a very near approach to varicella, all of them so far deviated from the ordinary character of the variolous secretion as to be devoid of a creamy and consistent pus, and rarely to exhibit more than a whey-like matter, whether the eruption were distinct or confluent, or the fever mild or severe. In other respects, Mr. Marshall observes, the disease did not materially differ from the description given of the small-pox by systematic writers. For some days the eruption was papular; it then became vesicular, each vessel having a depressed point in the centre. During the early stage of the vesicles, they contained pure lymph; subsequently they became less pellucid, and assumed a whitish hue; and, when matured, they contained the above whey-like fluid. "In no instance," says he, "that came under my observation, did the contents of the vesicle assume a yellow colour and thick consistence, as is stated to occur in small-pox in Europe."

Kandyan  
epidemic of  
Marshall.

These, it should be observed, were not cases that had been preceded by vaccination. Many such occurred, but the eruption was here of a still different and more modified, and even a more mitigated kind, still showing the controlling power of the vaccine fluid. This eruption, indeed, was occasionally severe, but uniformly appeared after two or three days' fever. For the most part, it was confined to the fore, or the upper part of the body, ranging from one or two to thirty papulæ, and was remarkably uniform in its

Still all these  
aberrations  
different from  
small-pox after  
vaccination.  
Ordinary pro-  
gress of this  
epidemy.

\* Variol. Epidem., p. 353.

## GEN. III.

## SPEC.

Empyresis  
variola.Sometimes  
makes an  
approach to  
measles.Exemplified  
also in the  
Ceylonese  
epidemic:the cases  
uniformly  
fatal.Where  
confluent,  
sometimes  
mimics the  
erythema or the  
ignis sacer of  
anthrax or  
erythematous  
plague: and  
even evinces  
bubonous or  
other tumours.  
Exemplified  
from Russell:

from Huxham.

Hence small-  
pox at first  
often confound-  
ed with all  
these diseases:especially by  
Aaron of  
Alexandria.Chief difficulty  
felt in respect  
to small-pox  
and chicken-  
pox.

progress. It consisted of elevated hard pimples, containing a vesicle of pure lymph *at their apex*. These, by the fourth, fifth, or sixth day, reached their full size, and were soon followed by desquamation.

It not unfrequently happens, that, in dangerous cases, the papulæ do not rise kindly, but assume the form of stigmatised dots, while the surface is circumfused, generally, with a brighter or deeper efflorescence, according to the nature of the habit; under which circumstances, the disease makes a near approach to rubecula, and has, at times, been mistaken for it. Of this form, also, the late Ceylonese epidemic, as described by Mr. Marshall, afforded various instances. "There were a few cases," says he, "where the skin assumed a MEASLY appearance. Under this description of the disease, the surface of the body resembled wet brown or blotting-paper. The fever continued without abatement: and frequently little or no eruption appeared. I am not aware that a single case of this kind recovered."

And where, in the confluent variety, the secreted ichor (for the inflammation is seldom suppurative) is peculiarly virulent, we frequently meet with trails of vesicular and fiery erythema spreading over different parts of the swollen body, not unlike, in appearance, to the ignis sacer of that variety of plague which the ancients peculiarly distinguished by the name of anthrax, and which in the present classification is denominated erythematous plague.\* And the resemblance is still more close, when this form of confluent small-pox is combined with bubonous or other ulcers: of which examples are frequent in hot climates, as in the epidemic attack of small-pox at Aleppo, described by Dr. Russell. "If the sick," says he, "survived the eleventh day, few of them escaped corrosive ulcers with carious bones, or *hard swellings in the glandular parts*."† Even in the colder temperature of our own country, the same miserable train of symptoms has sometimes shown itself, as observed by Dr. Huxham "*variola epidemicæ interdum crudo diffiunt ichore, qui subjectam carnem erodit, imò et nonnunquam ipsâ gangrænâ afficit*."‡

It is not very surprising, therefore, that the small-pox, on its first discovery, and, indeed, for long afterwards, should, according to the variety it assumed, have been confounded with all these diseases, and especially with the measles and chicken-pox — from their originating, or, at least, being first noticed, about the same period, and consequently being equally new diseases. Hence we are told by Rhazes, that Aaron of Alexandria, who wrote on this disease as early as A. D. 620, arranged the small-pox, measles, and anthrax, or erythematous plague, as products of one common specific contagion.§ The last was, indeed, soon thrown out of the list: but the two former continued to be contemplated by most writers as one and the same disease, for eight centuries after the era of Aaron.

With respect to the small-pox and chicken-pox, there has been more difficulty. A contest of no ordinary magnitude arose in early

\* See Gen. iv. Spec. i. Var. γ. of the present Order.

† Oct. 1742.

‡ Julio, 1744.

§ Rhaz. De Variolis et Morbillis, in Continent, lib. xviii. cap. viii. Interprete Feragio Judeo. A.D. 1486.



times upon the subject, in support of which, every nation in Christendom, as in the Holy Wars, for many ages sent forth its champions; and the conflict has been of a still longer duration than the Holy Wars themselves.

In the midst, therefore, of all this confusion of diseases, nothing can have been more called for, than a judicious attempt to distinguish the one from the other, and to lay down their respective landmarks; and, hence, those who have engaged in such an undertaking have ever been entitled to the warmest thanks of the profession.

Rhazes, in this respect, may be said to have taken the lead. He carried at once the anthrax, or erythematous plague, of Aaron to a distinct genus from al-gridi, or the small-pox; and though he continued this last and measles (الْحَصْبَة) (*al-hasbet*, rather than *al-hasba*,

as commonly written,) under the same genus, he arranged them as distinct species, and consequently regarded them as separate diseases: while to the small-pox, thus disentangled and simplified, he assigned pretty nearly the same varieties as have been allotted to it by the most discriminating writers of the present day; for he very accurately describes the distinct, the confluent, and the limpid or vesicular, including the crystalline and horny; and treats of the disease under the opposite characters of benign and malignant.\*

Unfortunately, the limpid or lymphatic small-pox was incautiously denominated chicken-pox, by way of distinction from the purulent, by many writers of great authority and talents, as Morton†, Gideon Harvey‡, Mead§; while, which was more common, varicella or water-pox in all its varieties, was designated by the term variola, though regarded as having no real claim to such a term, and hence discriminated from the genuine disease by the adjunct *spurious* or *bastard* variola, of which Van Swieten furnishes us with a striking example. For after having noticed under his description of variola the *steen-pochen* (stone-pox), *water-pochen*, and *wind-pochen*||, all which he distinctly characterises by the name of spurious variola, and observed that he has seen them as frequently epidemic as the genuine small-pox, occasionally, indeed, running a race with the latter, and sometimes succeeding it, he dismisses them altogether, and proceeds with the history of the genuine disease in all its modifications: telling us that, like Dr. Mead, he had met with the crystalline variety, as well in the confluent as in the discrete form, occasionally, indeed, intermixed with the pustular: and that, under this variety, was reckoned by the best writers the siliquose, or that which consists of soft and empty vesicles, but which are sometimes at last filled with pus.¶ In much of this he is followed by Sauvages, who, however, regards varicella by name as a distinct variety of small-pox; while with Hoffman\*\* he

GEN. III.

SPEC.

Empyesis  
variola.

Conflict upon  
this subject  
early and long-  
continued.  
Distinctive  
marks hence  
of great im-  
portance.  
Attempted by  
Rhazes.

His combin-  
ations and  
distinctions.

His vesicular  
form unfortu-  
nately called  
by many  
chicken-pox;  
while varicella,  
or water-pox,  
was called  
variola, though  
distinguished  
by the adjunct  
bastard, espe-  
cially by Van  
Swieten;

Sauvages;

\* Rhaz. De Variol. et Morb. Ferag. Jud. — See also Mead's Works, vol. ii. p. 163. edit. ed. 1765.

† Treatise upon Small-pox. Lond. 1694.

‡ Treatise on Small-pox and Measles. Lond. 1696.

§ De Variol. et Morb. ex Rhaz. Lond. 1766.

|| Comment. Aph. 1381. vol. v. p. 11. edit. Lugd. Bat. 4to.

¶ Comment. ut supra. Aph. 1398.

\*\* Opp., sect. i. cap. iii. p. 293. ed. Gen. 1740.



## GEN. III.

SPEC.

Empyema  
variola.

Hence a stricter  
discrimination  
still wanted.  
And attempted  
by Fuller and  
others: not  
without con-  
siderable  
success.

Present danger  
of returning to  
the same con-  
flict: and why.

Singular  
attempt of  
Frank.

Anomalous  
epidemic  
variola of  
1816 at  
Montpellier.

separates it from the crystalline or lymphatic variety, which he makes synonymous with horn or cornoidal pox (*spitzpoechen*), and water-pox. \*

A more pointed discrimination, therefore, became necessary, and a still stricter attention to the specific characters by which small-pox and chicken-pox are distinguishable. This was successively undertaken by Fuller †, Borsiero (Burserius) ‡, Hosty §, Heberden ||, and Willan; and has been so far accomplished, as to have satisfied the profession generally, although it has not, perhaps, at any time set the question altogether at rest in the mind of every one.

Of late years, however, the learning and acuteness of many pathologists seem to have put us in no small danger of going back into all the confusion which existed in former times: not, in any respect, from ignorance of the real nature of the eruptive diseases towards which their attention has been turned, but from a scientific desire to generalise and simplify them.

About thirty years since, Professor Frank, of Milan, dissatisfied with the ground of that general composure of mind which seemed to have taken place on the subject, commenced a new agitation, and undertook to show that chicken-pox (*varicella*), crystalline, and horn-pox, and in general all those forms of exanthem, which, since his time, have been called, though with no very classical term, *varioid* diseases, belong to PEMPHIGUS as a genus, under which also he places pompholyx. This genus he divides into two species, *p. amplior*, importing the ordinary form of the disease, and *p. variolodes*: “eamque,” says he, alluding to this variety, “aut vesicularem (*variola spuria emphysematica*), aut crystallina (*aquosa, varicella auctorum*) aut solideseentem (*variola spuria verrucosa, acuminata, sicca, dura, ovalis auctorum*) appellari vellemus.” ¶ It is not necessary to follow up his argument, since, however well supported, it has for some time been sinking into disrepute; though, amidst the versatilities of opinion and conjecture which have of late distinguished the medical world, it is not impossible, that, like many far more obsolete doctrines, it may yet revive and have its day again. It is necessary, however, to advert to it as forming one of the first and best supported deviations from the general concurrence of opinion, that had for some time been entertained upon the subject.

In the variolous epidemic which prevailed during 1816 at Montpellier, the eruption seems to have presented almost all the diversified forms under which it is ever to be traced, in respect to shape and number of pustules, the nature of their fluid, the length of time which they require in order to be exsiccated into scales or scabs, and in the duration and severity of the eruptive, as well as in the absence or presence of the secondary fever. The chicken-pox (whether pemphigus or varicella), as is often the case, appears both to have preceded and to have accompanied the genuine variola; and the two were in many instances so closely intermixed, and alternated, as to render it a work of no ordinary

\* Cl. III. Ord. II. Gen. II.

† Exanthematologia, p. 167. Lond. 1730.

‡ Institut. Med., tom. II.

§ Mercure de France, Janv. 1769.

|| Medical Transact., i. 427.

¶ De Cur. Hom. Morb. Epit., tom. III. p. 264. Mannh. 8vo. 1792.

difficulty to draw a line of demarcation. "Never, perhaps," says Professor Berard, who, in conjunction with Dr. de Lavit, has given an interesting history of this epidemic \*, "did the symptoms of chicken-pox so nearly resemble those of the small-pox, nor these diseases more fully assume the characters of each other." The result was that, although at the commencement of the epidemic they contemplated the two diseases as perfectly distinct, but running a common race, they were at length inclined to regard them as identic, for reasons highly plausible, and which they advance with great modesty; and thus again enlisted chicken-pox under the banner of variola. And since this time, Professor Thomson, of Edinburgh, from an attentive observation of like coincidences in the late variolous epidemic in Scotland, to which we have already adverted, has not only felt inclined to draw the same conclusion, but has, with great industry and force of argument, endeavoured to establish an identity of species between these two eruptions by a copious reference to their history, and the progress of the contest to which they have given rise, as developed in all the standard authorities, foreign as well as domestic, from the accredited date of their origin to the present day. †

It is not a little singular, and tends in the strongest light to show the discursive powers of human genius when aided by the resources of learning, that, at the very moment of this new attempt to combine diseases which have of late years been regarded as distinct, or as claimed in various forms by another genus, Dr. Willan, who had laboured hard to support and rivet such distinction, was engaged in the more arduous task of establishing the identity of small-pox and plague in that variety of the latter which makes the nearest approach to small-pox, and which we have already referred to under the name of erythematous. His researches, which have been published posthumously by his learned relative Dr. Ashby Smith ‡, are written with an amenity and antiquarian interest that fully entitle them to a place in every medical library, whatever becomes of the question itself, and have, undoubtedly, brought conviction home to the minds of not a few. So that, if the whole of these elaborate lucubrations could maintain their ground, plague, small-pox, chicken-pox, pemphigus, and, perhaps, cow-pox, grease-pox §, measles, and scarlet-fever, would all be resolvable into one common malady, and derivable from one common virus. While, as another learned attempt has been set on foot by a third body of pathologists of no mean authority or pretensions ||, to show that plague itself, in this case the primary and original source of them all, does not exist in any shape, nor ever has existed, as a specific disease; and is nothing more than

GEN. III.  
SPEC.  
Empyesis  
variola.  
Described by  
Berard and  
De Lavit.

Renovated  
attempt of  
Thomson.

Discrepant  
and still  
more singular  
attempt of  
Willan

to identify  
small-pox and  
plague.

While by others  
the existence of  
plague as an  
idiopathic  
disease is  
altogether  
denied.

\* *Essai sur les Anomalies de la Variola et de la Varicella.* Paris, 1818.

† Historical Sketch of the Opinions entertained by Medical Men respecting the Varieties and Secondary Occurrence of Small-pox, &c., in a Letter to Sir James McGrigor, &c. 8vo. London, 1822.

‡ Miscellaneous Works of the late Robert Willan, M.D. &c., comprising an Enquiry into the Antiquity of the Small-pox, Measles, and Scarlet-fever, &c. 2vo. Lond. 1824.

§ Thomson, ut supra, pp. 146. 387. — Willan, ut supra, p. 69, note 75.

|| Heberden, Observations on the Increase and Decrease of different Diseases, particularly the Plague. 8vo. 1821. — Hancock, Researches into the Laws and Phenomena of Pestilence, &c. 8vo. 1801.

GEN. III.  
SPEC.  
Erimpyesis  
variola.

The subject  
capable of  
being pursued  
further.

a typhous or malignant fever with an accidental appendage of efflorescences, eruptions, or tumours of various kinds, modified by a host of contingencies (to which, indeed, Dr. Frank is also a party in his first volume)\*, the whole system of pyretology seems, in the present day, to have some chance of being concentrated into a marvellously small compass, and, for the benefit of future students, may, perhaps, be engraven on a silver penny. But, where the landmarks of diseases are thus successively broken down one after another, till no guiding-post is left, how is the young student to make his way over the trackless common before him?

This view of the subject might easily be carried still further: for, after Dr. Willan had persuaded himself, that the erythematous plague of the ancients was nothing more than the vesicular and confluent variety of small-pox, he persuaded himself, still further, that the distinct and coherent form of this disease is, in many cases, synonymous with their phlyzaciæ, lichenes, and ecthymata†; thus melting down a multitude of other eruptive affections into the same crucible. Had he lived longer, indeed, it was his intention to have unfolded in a similar way the history of syphilis, which, like all the preceding complaints, he conceived to be of immemorial origin, and, apparently, to have had a close fellowship with them.‡

[The leading arguments of Dr. Thomson are; first, that all the cases he had seen of varicella occurred at the same time, and in direct connection with small-pox, sometimes appearing to originate in it, sometimes to produce it; secondly, that he had never witnessed chicken-pox in those whose disposition to variola had been extinguished by an attack of the varioloid disease; and, thirdly, that chicken-pox is very rare among those who have not been vaccinated. To these apparently strong arguments, it is answered, that Dr. Thomson disregarded the true characters of chicken-pox, as determined by the latest and best authors, and confounded with it the vesicular form of the varioloid disease; that though the diseases sometimes alter their characters so as to resemble one another very much, yet, when the term chicken-pox is restricted to the unequivocal and most frequent variety of it, described by Mr. Bryce, then it will be found, first, that, by natural infection, chicken-pox never gives rise to any thing else but chicken-pox; secondly, that by inoculation it never causes the varioloid disease or small-pox; thirdly, that, when it is traced ramifying throughout a family, or a district, it reproduces itself in the same form, and with the same mildness, equally in the inoculated, the vaccinated, and the unprotected; and, fourthly, that it reproduces itself as often in its mild form among the unprotected as among the protected, even when it prevails so much as to be accounted epidemical; whereas, all the facts hitherto collected show, that, when the true varioloid disease prevails epidemically, its form in the unprotected is very often peculiarly malignant.]§

Concessions to  
Thomson.

It must be conceded to Professor Thomson, that it is often peculiarly difficult, sometimes, perhaps, unconquerably so, to distinguish, by the superficial appearance, the nature of the fever, or even the mark that remains on the skin afterwards, chicken-pox

\* De Cur. Hom. Morb. Epit., tom. i. p. 136. † Will., ut supra, p. 53.

‡ Miscellaneous Works, p. 87.; foot-note by Dr. Ashby Smith.

§ See Edin. Med. Journ., Numbers for April, 1820, and for January, 1828.



from small-pox; and especially, which is what he particularly alludes to, that modification of small-pox, which is so apt to follow vaccinia or cow-pox, where the latter has only given the constitution a check, and not an utter exemption. But these approximations are only to be traced in extreme modes of the two diseases, and where they make a considerable divergency from their right and proper course; for, in a pure or perfect state of small-pox and chicken-pox, whether we regard them as distinct diseases, or as mere varieties of one common species, there is no difficulty whatever. And even in their widest departure from such state, and their closest approximation to each other, as well in unity of time as of character, they do not more intimately coincide, than in the case of various other diseases, of whose distinction there never can be a question. Thus, in idiopathic epilepsy and intestinal worms, the symptoms are often precisely the same; and the existence of the second, at first only conjecturable, is, at last, only ascertainable by the action of anthelmintics. But worms may also be accompanied with all the symptoms of a genuine hectic, as may this latter with all those of a quotidian or a tertian ague. So measles have often been confounded with rosalia or scarlet-fever, and miliaria with eczema, or heat-eruption; and it is one of the most important parts of nosology to point out the distinctive marks of such analogous diseases, though a part in which it has not always succeeded.

As there are some disorders that render the constitution less disposed to the small-pox than others, of which the cow-pox furnishes us with an example, there are also some that render it more so. In like manner, we find the measles generally superinduce catarrh, and, very frequently, prepare the way for whooping-cough; inasmuch that all these maladies become synchronous. So the chicken-pox not unfrequently lays a foundation for the small-pox, and the small-pox may, perhaps, in persons of a particular habit, lay a foundation for the chicken-pox; or even the atmospheric intemperament of either of these diseases, when epidemic, may call the other into play; so that both, as we frequently see, co-exist, not only in the same place, but even on the same person. In truth, the same constitution of the atmosphere often favours the growth and spread of various diseases equally; and hence, rubeola, varicella, rosalia, and catarrhs are not unfrequently coincident.

[Here it deserves notice, however, that Dr. Möhl, who has favoured the world with a valuable publication on the present subject, has never seen chicken-pox in families where small-pox prevailed at the same time, or recently before; that he has twice or thrice, indeed, seen in such circumstances an eruption resembling chicken-pox, but never a disease corresponding exactly with its characters, as they will be presently laid down. On the other hand, Dr. Lüder alleges, that he has seen chicken-pox produced by the variolous contagion; but his strongest proof, when carefully examined, amounts to nothing. The eruption was preceded by fever of three days' duration: it assumed at first the papular form, and it seems not to have become vesicular till the third day after it appeared. We shall presently find, that this description does not by any means correspond with the description of an unequivocal case of chicken-pox.\*]

## GEN. III.

## SPEC.

Empyema  
variola.

But the general  
distinction not  
hereby dis-  
turbed.

Like approx-  
imations be-  
tween other  
diseases whose  
distinction has  
no question.

Exemplified.

The exemplifi-  
cation applied.

\* See Edin. Med. and Surgical Journ., No. xciv. p. 185.

## GEN. III.

## SPEC.

Empyesis  
variola.Diacritical  
signs laid  
down.

The two diseases before us have marks, if I mistake not, so strictly essential, as to render it highly incorrect and unscientific to contemplate them as mere modifications of a common exanthem; which, moreover, in various cases, by throwing the practitioner off his guard, might lead to a very erroneous treatment and a dangerous exposure of the person. If these be not to be found in the ordinary distinctions that have been pointed out by Dr. Heberden, Dr. Willan, and other monographists, as resulting from the form and duration of the pock, the consistency of its fluid, and the integrity or dip of the skin after the eruption is over, we must look beyond the obvious symptoms to the intrinsic properties of the respective matters eliminated, and the influence of the two diseases on the constitution in future. And here I think we shall not look in vain.

I. Matter of  
small-pox  
uniformly  
produces  
small-pox by  
inoculation.

Matter of  
chicken-pox  
does not pro-  
duce small-pox  
by inoculation:  
and very rarely  
reproduces  
itself.

I. The matter of small-pox is capable of reproducing small-pox BY INOCULATION. It continues true to its own specific character, and possesses this power to infinity. The matter of chicken-pox is not capable of reproducing small-pox BY INOCULATION; nor is it often capable of reproducing even its own kind. It will sometimes excite an irritation around the puncture, but it seldom seems to proceed farther. Nor, indeed, does it always irritate locally: for we have already seen that Dr. Heberden, with all his efforts to obtain this effect, found that "the little wound healed up immediately, and showed no signs of any infection."\* Of the two cases described by Dr. Willan, the first, indeed, affords an example of regular local specific action; "for the vesicle on the inoculated part went through its ordinary course; and, twelve days after the incision, he observed, further, that two small red eruptions appeared on the shoulder, and soon became vesicular;" but, in the second case, even the local irritation appears to have been nearly as trifling and unspecific as in the case of Dr. Heberden: on the third day after inoculation, "the small scratches made by the lancet were discernible, but not inflamed." On the fourth, "they were scarcely visible." On the fifth, "a redness with some degree of hardness and elevation appeared at the places punctured, but subsided again on the following day." On the eighth, "no vestige remained of the inoculation." It should be observed, however, that, *twelve* days after the use of the lancet, two small gnat-bite-like spots appeared on the patient's side, which became vesicular, and that, two days after this, "a considerable number of vesicles, with surrounding redness, appeared on his body; but there were not any on his face." On the next day, "he was free from indisposition, and no further eruption took place." The whole of which general eruption, in consequence of the imperfect action exhibited on the arm, was reasonably ascribed to contagion received antecedently to inoculation; the patient, who was a boy of nine years old, having been the constant playmate of his brother, from whom the fluid was taken, and who had caught the disease at school.†

From this slightness of irritability in the fluid of the varicellous vesicle, many practitioners have supposed that it is nothing more than an increased secretion of the serum of the blood, like that which takes place in "any blister produced by scalding or cantha-

\* Medical Transactions, vol. i. art. xvii.

† On Vaccine Inoculation, p. 98. 4to. 1806.



rides."\* This, however, is hardly to be admitted; but it is impossible to reflect upon the readiness with which most cutaneous eruptions, whether merely superficial or constitutional, are capable of propagating themselves by inoculation, as cow-pox, plague, syphilis, psoriasis, porrigo, and scabies, in all its forms, as well as small-pox, without a conviction that the fluid of the varicellous vesicle is, at least, one of the most inert of the whole, and consequently something widely different from that of the small-pox.

The power of propagation possessed by genuine small-pox, moreover, is not only in direct opposition to the power of chicken-pox, peculiarly active, but runs through all its varieties, each of which, however deflected from the standard of perfection, has a tendency, though not an equal tendency, to reproduce the same disease, and to model it after such standard: and hence we have a thousand instances of discrete purulent small-pox, generated by inoculation from the confluent or crystalline varieties.† Not, indeed, that the latter is always as sure in its action, for it often fails from its imperfection; but, wherever it evinces specific power enough to operate, it reproduces the genuine disease, and mostly with a completely matured pustule. In effect, it is rarely that the fluid in the confluent small-pox becomes thoroughly matured or purulent; and yet it is seldom that this has been found unavailing.

II. An incursion of natural small-pox protects the system against a recurrence of small-pox, and an incursion of natural chicken-pox against a recurrence of chicken-pox; but neither of these affords the slightest security against the other. This protection, indeed, is not universal, and hence we have, in both diseases, a few examples of secondary or even ternary affection; but the rule holds generally, and is not fundamentally disturbed by such anomalies. And hence a full proof that the intrinsic qualities of each virus is distinct, and consequently that the diseases themselves are so.

III. The matter of cow-pox, which affords a like protection to the system against small-pox, affords no protection whatever against chicken-pox. On the contrary, according to many writers, it seems rather to pave the way for chicken-pox;—if all the anomalous eruptions, which have been regarded as chicken-pox since the introduction of vaccination, have been fairly entitled to this appellation, instead of to that of spurious small-pox, as they were formerly called; since such eruptions appear of late years to have been more frequent than ever. But of the real nature of several of these we are, perhaps, to the present moment in a considerable degree of ignorance.

They may, perhaps, be of later origin than either the small-pox, cow-pox, or measles, and they may possibly wear themselves out sooner, and give way to other eruptions, of which at present we know nothing. "For it seems deducible," says a learned and highly venerated friend of the author, "that there is not a secretion or exhalation of the human body, which may not be so vitiated as to produce diseases communicable to others by contact or respiration, under various fortuitous circumstances of concentration and stagnation, application and action; so that there may be new ma-

## GEN. III.

## SPEC.

Empyema  
variola.

Its virus by inoculation, almost the inertmost of any virus whatever; while that of small-pox is one of the most active;

and not only peculiarly active, but runs unchanged through all its varieties.

II. An incursion of small-pox protects the system against a recurrence of small-pox: and of chicken-pox against that of chicken-pox; but neither protects against the other.

III. Cow-pox affords protection against small-pox, but none against chicken-pox.

On the contrary, is said to pave the way for it: or for eruptions of very like character, but which may be different and more recent. Elucidated from Blane.

\* Brown's Enquiry into the Anti-Variolous Power of Vaccination, p. 223.

† Frewen, Essay on Inoculation, 1749. — Willan, On Vaccine Inoculation, p. 55.



GEN. III.  
SPEC.  
Empyesis  
variola.

ladies awaiting our species, which are still to develop themselves under the endless combination of the incidents of human life through endless ages to come."\*

By the facility with which some of these are capable of producing fresh crops of their own nature in inoculation, they seem to be distinct from varicella; and, from their forming no protection against the small-pox, they are evidently distinct from the latter, notwithstanding their frequent approximation to it in duration, and the external qualities of the pustule.

These signs  
apparently in-  
controvertible  
and sufficiently  
differential.

These are marks uncontested, I believe, by any party; and they are sufficiently different to establish a clear distinction in the nature of the two eruptions, and consequently to separate the diseases from each other.

Characteristic  
differences  
specified be-  
tween small-  
pox and  
chicken-pox  
by the best  
modern  
writers.

[The diagnosis between small-pox and chicken-pox is much better understood at present than it was some years ago. Whoever has attended to the account given of varicella by Mr. Bryce and Dr. Abercrombie, will perceive that the majority of previous authors had included, under that designation, some varieties of eruptive disorders, which it is impossible to distinguish from the common forms of modified small-pox. And, although many, or rather, most cases of the kind, may be proved to have been cases of the varioloid disease, it is at least highly probable that some of them have been cases of chicken-pox, but in one or other of its irregular forms, to the occurrence of which it is liable, as well as every other exanthematic disorder. In defining the disease, however, the leading place must be assigned to its most frequent and regular form; and it is obviously to this form alone that we must confine all observations on its origin and contagious nature.

The differences  
specified.

A great deal of attention has been paid to this subject by Mr. Bryce, Dr. Abercrombie, and the reviewer † of Dr. Thomson's work. And the result has been, says the critic, whose words we are now quoting, that, in opposition to the opinion of Dr. Thomson regarding the impossibility of distinguishing chicken-pox from small-pox, or of embodying in words the idea currently entertained of a pure case of the former disease, we are now in possession of a minute and faithful delineation, which no one can be at a loss to apply in practice. The proper unmodified chicken-pox is distinguished, first, by the eruptive fever being generally slight; whereas that of modified small-pox is generally sharp, and of several days' duration; secondly, by the eruption being vesicular from the beginning, or at least, from an early period of the first day, not papular, as the vesicular form of the varioloid disease always is for a day or more; thirdly, by the absence of a tubercular basis when the vesicles are fully formed—the vesicles of the chicken-pox being hardly accompanied with any swelling around them; while those of modified small-pox are, in the first instance, elevated on solid tubercular bases; fourthly, by the great thinness and fragility of the cuticle covering the vesicles. In applying these characters, two precautions must be observed: on the one hand, the eruption must be seen as early as the second or third day, because, at a later period, the chicken-pox eruption sometimes acquires a tubercular

\* Select Dissertations on several Subjects of Medical Science. By Sir Gilbert Blane, Bart., &c. p. 214. 8vo. Lond. 1823.

† See Edin. Med. Journ., April, 1820.

hase, and the varioloid loses it; and, on the other hand, the judgment must be directed by the general eruption, not by the appearance of a few vesicles differing from the generality. Besides these characters, the critical writer adverts to some others of importance pointed out by Dr. Möhl\* and Dr. Lüder.† According to the latter, the varioloid eruption is formed in the true skin, as is shown by the hard elevated base which remains after the lymph is removed by puncture and pressure. On the other hand, chicken-pox is situated in the cellular tissue between the skin and cuticle. This may be perceived, as Mr. Bryce formerly pointed out, by opening a vesicle, and examining its edge after the lymph has run out: no excavation or elevation will be perceived, but a surface level with the surrounding skin.

Dr. Möhl agrees with Mr. Bryce and Dr. Abercrombie, as to the rapidity with which chicken-pox assumes its proper vesicular structure. He had never seen it on the first day; but, on the second, he has uniformly found it vesicular. He adds another character, not always present however, namely, itchininess of the eruption. And he has given a minute description of the crusts, which, he says, are characteristic, being irregular, uneven, opaque, of a pale brownish, or yellowish colour, formed of the lymph and collapsed cuticle, and falling off, as Dr. Monro pointed out, not in a single piece, like the crusts of variola, but in small fragments.‡ Both Dr. Möhl and Dr. Lüder, it appears, have furnished a criterion, which Dr. Thomson himself admits would, if established, show the fallaciousness of his views. "I do not think," says Dr. Thomson, speaking of his hypothesis, "it can well be set aside, till it shall be proved that chicken-pox occurs generally in persons who have not had small-pox, or cow-pock, and prevails epidemically, without cases of small-pox occurring among them. It is no wonder, says the reviewer, that the records of medicine should have supplied no such example, seeing how imperfectly chicken-pox was, till of late, distinguished, and still more how seldom, till lately, a district of country could be said to be without small-pox. But the political condition of Prussia and Denmark has enabled both our authors to present Dr. Thomson with examples of the most unequivocal nature. From the year 1809 (says Dr. Möhl) till 1823, there was absolutely no small-pox in this city; while, during that period, chicken-pox was observed every year: and, on that account, there is not a Copenhagen physician, who entertains any doubt of the specific difference between the two diseases. Betwixt November, 1823, and March, 1825, while small-pox raged in Copenhagen, chicken-pox still prevailed sporadically, but without our having ever seen them arise from variolous contagion, or produce variola. When again the small-pox ceased, during the fine summer months of 1825, chicken-pox nevertheless continued to occur frequently. Next year, when the small-pox epidemic returned, Dr. Möhl had

GEN. III.  
SPEC.  
Empyesis  
variola.

Chicken-pox  
long prevalent  
in Copenhagen  
without a single  
instance of  
small-pox.

\* De Varioloidibus et Varicellis. Copenhagen, 1827. Said by the Edinburgh Reviewer to be, perhaps, the best epitome on the subject.

† Versuch einer kritischen Geschichte der bei Vaccinirten beobachteten Menschenblättern, nebst Untersuchungen über die Natur, &c. dieser Krankheit. Altona, 1824.

‡ See Edin. Med. and Surgical Journ., Nos. for April, 1820, and January, 1825.

## GEN. III.

## SPEC.

Empyesis  
variola.

Small-pox as  
little identic  
with læmus or  
plague, in any  
of its varieties.

Anthrax, or  
erythematous  
plague.

Some resem-  
blance in this  
to confluent  
small-pox, but  
none to dis-  
crete.

Hence Willan  
found a neces-  
sity for suppos-  
ing these to  
have been  
formerly re-  
garded as  
distinct dis-  
eases: the one  
a plague, the  
other a phy-  
zacia, or some-  
thing else.

Læmus or  
pestis how  
employed  
formerly.

I. No descrip-  
tion whatever  
of small-pox  
among Greek  
or Roman  
writers: nor  
any thing to be  
gleaned beyond  
a supposed  
hint.  
But if small-  
pox had ex-  
isted at all, it  
must have been  
common, and  
described at  
large under a  
specific name.

frequent opportunity of seeing chicken-pox, but still always under circumstances, which more and more convinced him, that it originated in a peculiar contagion, quite distinct from small-pox.\*]

That small-pox is not identic with any of the varieties of the læmus or plague, properly so called, of the Greek writers, is still more easily capable of proof. The variety, peculiarly fixed upon by Dr. Willan, is that which was often distinguished by the name of ANTHRAX, the erythematous form of the present classification, in which the body is "covered over with trails of vesicular erythema, producing deep, sanious, and gangrenous ulcerations as it spreads, often to a loss of one or more limbs."†

In this last there is, indeed, some resemblance to confluent small-pox, as it sometimes shows itself in cases where the fluid is yellowish, transparent, and immatured. But there is no resemblance whatever to the pustular discrete small-pox; and hence Dr. Willan is under the necessity of supposing, that the latter are alluded to by the ancients under some other term, and constituted with them another and widely different disease. "As the *angina maligna*," says he, "was for many ages thought generically different from the scarlatina febris, so was the CONFLUENT VESICULAR SMALL-POX deemed a principal branch of the LOIMOS or PESTILENTIAL FEVER: while the DISTINCT and COHERENT VARIOLÆ, with yellowish pustules and a moderate fever, were ranked with phlyzacia, ecthymata, lichenæ agrii, &c. This may be traced up to Hippocrates:—he, as well as Galen, speaks of pemphigoid fevers, fevers with phlyetænæ, and the anthracæ, as *pestilential* and *malignant*: and of another set of fevers, in which appear critical, inflamed, and suppurative tubercles or pustules."‡

Now the term ΛΟΙΜΟΣ, or PESTIS, was employed among the Greeks and Romans, like our own derivative PESTILENCE, in two very different senses, a strict or particular, and a loose or general. Under the first, it always imported, as plague or pestilence does in our own day, one and the same specific disease; under the latter, it was applied to various sorts of disease possessing any high degree of malignity, whether among mankind or among brutes, as the word pestilence is still used among ourselves. But it is immeasurably difficult to adopt the view of this subject taken by Dr. Willan, for the following reasons:—

First, we have no DESCRIPTION whatever of any such disease as small-pox in the writings of any of the Greek or Latin physicians: and all that Dr. Willan, or any one else, can accomplish upon this point, is to glean a few incidental passages, which may be supposed to ALLUDE to it in different places or volumes. Now, if the small-pox existed amongst the Greeks or early Romans at all, it must have existed as a common and popular disease; and it is impossible to suppose, that, among pathologists so minute in their attention to other diseases, and the descriptions they have given of them, as Hippocrates, Aretæus, Galen, and Celsus, they should not have described small-pox also at large, and assigned

\* See Edin. Med. Journ., No. xciv. p. 186.; also, Dr. Liider's Treatise, p. 120.

† Anthracia Pestis γ Erythematica, Gen. iv. Spec. 1. of the present Class and Order.

‡ Miscellaneous Works, ut supra, p. 59.



some fixed and specific name to this, as well as to apoplexy, cardialgia, catarrh, opisthotonos, instead of leaving us to seek for it at random under the names of læmus, anthrace, eulogia, and various other affections.

Secondly, as the small-pox, if it existed among the Greeks at all, must have had a frequent existence, and its varieties of discrete and confluent, mild and malignant, must have been known to every one, it is impossible, that Hippocrates or Galen could have made that separation between such varieties as Dr. Willan is obliged to suppose; and have contemplated them as distinct diseases, of very different origins, and destitute of all generic connection whatever.

Thirdly, inoculation for the plague was occasionally tried in ancient times, as it is in our day, and especially for that particular variety of the plague which Dr. Willan especially adverts to, as making the nearest approach to the small-pox, and always with the same result. Instead of producing a milder disease, as in the latter case, it uniformly proved fatal. The last attempt of this kind appears to have taken place in the reign of the Emperor Commodus, A. D. 189, and is thus described by Dion Cassius, in his narrative of the plague which overran so large a portion of the Roman territory at this era, and which is admitted by Dr. Willan to have been the modification of plague now alluded to: — “Many died in another way, not only at Rome, but over nearly the whole empire, through the practice of miscreants, who, by means of small, poisoned needles, communicated, on being paid for it, the horrid infection so extensively, that no computation could be made of the numbers that perished.” \*

Dr. Willan notices this passage of Dion, and very adroitly endeavours to turn it to his own account. “This absurd report,” says he, “is very analogous to the calumnies against our early inoculators.” The inoculators, however, in every other part of the world, when employed upon small-pox, succeeded, in every instance, in triumphing over such calumnies: they were upheld by the force of truth; they pointed to the favourable result of their practice, a result which it was impossible to deny; and hence there is no nation, in ancient or modern times, barbarous or civilised, Asiatic, African, or European, as we shall have to observe hereafter, wherever variolous inoculation was introduced, but became gradually sensible of its benefit, and hailed it as an incalculable blessing. Why was not the same triumph obtained by inoculation for the disease before us in Greece and Rome? Why, but for the reason alleged by the historian — that, instead of an incalculable blessing, it proved an exterminating curse, and thus gave a clear manifestation, that this disease was not the small-pox?

Fourthly, that the anthrace, referred to by Dr. Willan, was not small-pox, but a variety of the proper læmus or pestis, is clear from its existing in the same quarter of the globe in the present day, and being expressly described as such by pathologists of the highest authority, of whom it may be sufficient to mention Dr. Alexander Russell, whose account of this form of plague, as it appeared before his eyes, we shall advert to in its proper place †; and who was also as accurate an observer of small-pox, which he

## GEN. III.

## SPEC.

Empyema  
variola.

II. It must have existed with its varieties, and these varieties have been appropriated to a common species, instead of being regarded as diseases altogether distinct.

III. Inoculation for the very form of plague which Willan supposes to have been small-pox was tried, but neither produced a milder sort, nor guarded against a recurrence.

Remark of Willan on this subject answered.

IV. This species of plague still in existence, and sufficiently ascertained to be plague, and not small-pox, in the present day.

\* Hist. Rom., lib. lxi.

† Gen. iv. Spec. 1. of the present Class and Order.

GEN. III.  
SPEC.  
Empyesis  
variola.

Rhazes misled  
in imagining  
something the  
same as Willan.

Proof of his  
looseness and  
inefficiency of  
description as  
to these dis-  
eases derived  
from his Greek  
translator.

The most  
powerful oppo-  
nent of Willan,  
Willan himself.

His own prior  
comment on  
the above opi-  
nion of Rhazes.

has in like manner represented as it occurred to him; but who never once dreamed of regarding the two diseases as identic\*, or possessing any near connection.

Dr. Willan, however, relies mainly upon Rhazes, who seems, unquestionably, to have entertained some ideas upon this subject in unison with himself; for, apparently, misinterpreting a few loose passages of Galen in the same way as Dr. Willan has done, and particularly where Galen is treating of phlegmonæ, erysipelata, herpetes, and ionthi†, he tells us, that the small-pox and measles were known to Galen six hundred years before his own era. In answer to which, however, it may be sufficient to quote the following admission on the part of the Greek translator of Rhazes's Treatise on the small-pox and measles (al-gridi and al-hasbet), written in the tenth or beginning of the eleventh century, and dedicated to the reigning emperor, and which he entitles *περί Λοιμικῆς*, "on the PESTILENCE;" for by this name, adopting the vulgar meaning of the term, he denominates these diseases: — "It is confessed by all persons conversant with the writings and laborious researches of Galen, that nothing which pertains to medical science, or the cure of diseases, has escaped his penetration. With regard, however, to the pestilence (*Λοιμικῆ*), he is less explicit than on other subjects: he speaks of it *cursorily*, or *in connection with analogous complaints*, but *he does not any where state distinctly the symptoms or appropriate mode of treatment in it*: — strange, that he who first organised the medical art, and defined what had been left indeterminate, should have but slightly noticed a disease to which every man is born liable."

But the most powerful opponent of Dr. Willan upon the whole of this subject, is Dr. Willan himself; who, only a few years before, gave us his opinion upon it in the following form; and it is not a little singular to observe, how directly it is controversial of that we have thus far contemplated, while it does not appear, that any new facts, or additional evidence of importance, had sprung up before him to produce such a change of sentiment.

On his referring to this celebrated treatise of Rhazes, "he takes it," says Dr. Willan, "for granted, that the small-pox and measles were known to Galen more than six hundred years before his own time, being misled by some incorrect translation of Galen's works into the Arabian language. The passages which he quotes, have certainly not the least relation to the diseases above-mentioned (small-pox and measles). Indeed, no description of them, nor the slightest collateral hint, appears in the writings of the Greek physicians, which could lead us to suppose they had any knowledge on the subject. Some modern writers have held a contrary opinion, maintaining that Hippocrates and his successors applied to the measles and small-pox the denominations of exanthemata, eethymata, eezemata, erysipelata, herpetes, ANTHRACES, &c. Now, some of these terms have been strictly defined, and in a way which admits of no such application: the rest are left indefinite, and always intended to express, generally, eruptions on the skin, yet have they not been appropriated to any particular form of them.

\* On the Diseases at Aleppo, ch. iv.

† Tr. de Compos. Med., sec. loc. de Prognos. à Pulsibus, lib. ii.; and de Usu Partium, lib. ix.



A controversy founded on materials so slight and unsatisfactory, was carried on with ardour during a part of the last century, but need not at this time be revived, when it is nearly consigned to oblivion.\*

In the midst of all this diversity of opinion, there is one point at least clear, and universally admitted: I mean, that the earliest distinct description of the disease, which has descended to modern times, is that of Rhazes. It is contained in his *Almansor*, which was composed about the end of the ninth or the beginning of the tenth century; and in this he quotes from an Alexandrian physician, of the name of Aaron, who had written on the same subject as early as the year 622.

Yet it is very singular, that neither Rhazes nor Aaron, so far as their writings have reached us, make mention of the contagious property of the disease, chiefly accounting for its production by an ebullition of the blood, which they thought particularly incident to the age between childhood and youth. And it is equally singular, that it should be asserted by Aaron, as it was also by Avicenna, that the same person is liable to a return of it a second, or even a third time, *præcipuè cum sanguis sit acutus*. Has the disease undergone any change since this period, so as to render those who have not had it more susceptible of its influence, and those who have had it less? In the descriptive part of the disease, little is to be added to Rhazes's statement, and, what is more singular, he recommends the cool treatment. Unfortunately, however, the doctrine of concoction and despumation of the humoral pathologists spread afterwards so widely, and was so generally supported, as to put to flight this correct and rational view of the subject; and every attempt was made, by warm clothing and the warm bath, to mature the peccant matter, and drive it in as large a quantity as possible to the surface; by which the slightest cases were violently exasperated, and too often rendered fatal.

The more severe the disease, the sooner the pustules show themselves, thus completely reversing the law of scarlet-fever; a remark for which we were first indebted to the sagacious eye of Sydenham. And hence, in the confluent variety, the eruption appears on the second or third day, while, in the distinct, we have seldom any traces of it till the fourth, and often not till the fifth day.

If a patient have accidentally become impregnated with the contagion of the measles before inoculation or being exposed to the contagion of the small-pox, the latter, as we have already observed, will, generally speaking, be retarded in its progress, and not make its appearance till the measles have run through their course, upon the common law, that the constitution is only affected with one disease at a time. But to this common law we have already pointed out various exceptions; and as gout and rheumatism sometimes co-exist, the measles and small-pox occasionally co-exist also. In the year 1769, Mr. King, of the Foundling Hospital, Dublin, inoculated forty-three children of the establishment. On the fourth or fifth day afterwards, sixteen of them sickened with the measles, and went through the disease regularly; yet

GEN. III.

SPEC.

Empyema  
variola.

The first distinct description of small-pox, as admitted by all, is that of Rhazes in his *Almansor*.

No notice by him that it is contagious:

and said to be renewable in the same person.

Cool treatment recommended by the Arabians.  
General pathology.

The more severe the disease, the sooner the pustules appear.

Usually retarded in its progress by a sudden appearance of the measles.

But to this law various exceptions.

\* On Cutaneous Diseases, p. 251. 4to. Lond. 1809.



GEN. III.  
SPEC.  
Empyesis  
variola.

Retardation  
accounted for.

Some persons  
permanently  
insusceptible  
by nature:  
others insus-  
ceptible tem-  
porarily.

Irritability of  
the body to its  
influence as  
variable as a  
susceptibility  
for it.

Illustrated in  
the person of  
the author.

Hence the  
slightest erup-  
tion a sufficient  
security: per-  
haps the best  
security; and  
why.

the progress of the small-pox was not retarded or altered; for the pustules of the latter disease appeared as those of the former died away; and both complaints were of a mild character: a like coincidence occurred in the ensuing year, and with a like favourable termination.\*

In this case, the common law of retardation seems to have been interfered with by some peculiar constitution of the atmosphere; for the effect was general to all who were under the influence of rubeolous contagion. In other cases, we have a like interference with the common law of variola, from the idiosyncrasy of individuals, or some temporary but equally occult power, operating upon the system. There are some persons who seem to possess a natural immunity to its influence, and pass through life without ever being infected, though they may have purposely exposed themselves to the most contaminated atmosphere. There are others, who, though incapable of being affected at one time, lose their emancipation at another. "I know an old nurse," says Dr. Huxham, "and one apothecary, who for many years attended persons, and a great number too, in the small-pox, and yet never had them; nay, many that have industriously endeavoured to catch this infection, by frequenting the chambers of the sick, have done it without effect; and yet some of these persons, some months or years after, have been seized with the small-pox."†

But not only does the susceptibility of the disease vary in degree at different times and in different persons, but the irritability of the body beneath its influence. Thus, among fifty persons who receive it at the same time, and undergo the same regimen, we may perhaps have as many degrees of violence; some dying beneath its severity, some escaping, though with great peril, and indelibly seamed and scarred, and others evincing little fever, and a very slight eruption. The present author caught it casually in London, when a child about six years old, and passed through it with scarcely any disturbance, and not more than twenty scattered pustules.

In like manner we find, under inoculation, that while some persons throw forth a full crop, and suffer considerably from fever, others have scarcely any febrile symptoms, and no more eruption than the pustule on the puncture; the disease, in this case, exhibiting the same change as occurs in inoculated cow-pox, compared with the exanthem as received casually from the cow.

It was at one time doubted, whether this slight appearance afforded protection for the future. There is now no longer any doubt upon this subject. But we may go beyond this, and reasonably conjecture, that those who have passed through the disease with but little inconvenience, are even less exposed to future attacks than persons who have had it in the confluent form, and whose faces are marked with its ravages. For as the degree of violence depends, where there is no error in the treatment, upon the degree of irritability which the constitution manifests under the contagion, and as the irritability and susceptibility march with an equal step, he is most likely to have a renewal of the susceptibility

\* Edin. Med. Comment., vol. iii. p. 443.

† Treatise on Fevers, Small-pox, &c.

in process of time, who bears the most evident marks of a greater susceptibility antecedently.

It had indeed been conceived by very distinguished pathologists, that the small-pox can never be had a second time, notwithstanding various assertions in support of this fact; and the argument is thus ingeniously put by Dr. Heberden, who was himself a disbeliever: — “It would be no extravagant assertion to say, that here in England not above one among ten thousand patients is pretended to have had it twice; and whenever it is pretended, it will always be as likely, that the persons about the patient were mistaken, and supposed that to be small-pox which was an eruption of a different nature, as that there was such an extraordinary exception to what we are sure is so general a law.” \*

This remark is forcible, but the actual occurrences are in many, perhaps, most of the instances appealed to, still more so. For, from the cause I have just pointed out, those who have had a repetition of small-pox have generally, if I mistake not, been able to exhibit proofs of a prior attack in pits or scars on the face or some other part of the body, manifesting the violence with which the disease ran its course, and consequently the strong predisposition of the constitution towards it, and irritability under its influence. “It is remarkable,” says Sir Gilbert Blane, “that almost all the well-authenticated cases of second small-pox have been of those persons who, in the first instance, had undergone it in its most severe and dangerous forms.” † Louis XV. of France afforded a clear exemplification of this in 1774; and another still more striking is given, for the ensuing year, in the Memoirs of the Medical Society ‡, in which, though the first attack was peculiarly severe, the second was more so, and proved fatal. The medical repositories are rich in cases of this kind, some of them so striking and so well established as to prohibit all doubt whatever: and, in the two or three instances which it has fallen to my lot to witness, I have traced the same character; for pits from the prior attack have been visible, while the genuineness of the existing attack was in one instance substantiated by the test of inoculation. In some instances, this strong constitutional predisposition runs through every branch of the family, of which Dr. Barnes of Carlisle has given us a striking example in five individuals, sons or daughters of the same parents, who, having all caught the small-pox naturally in the summer of 1818, from which most of them suffered smartly, caught it again in February, 1822, and had it also smartly, though not quite so severely as on the first attack. In both series of affection, the individuals varied in the degree of fever and range of pustules; but in every instance, whether of the first or second series, the eruption was pustular. This account is given in the seventy-sixth number of the Edinburgh Medical and Surgical Journal §; and the very next article in the same number affords an instance of a family diathesis of the same kind, in four individuals, sons or daughters of the same parents, who were attacked nearly simultaneously with small-pox after having undergone vaccination, which seems to

GEN. III.

SPEC.

Empyesis  
variola.Small-pox  
supposed formerly never to  
appear a second  
time in the  
same person.Opinion  
adopted by  
Heberden.Those who have  
a recurrence,  
mostly marked  
by the violence  
of the first  
attack.The constitu-  
tional suscep-  
tibility some-  
times runs  
through an  
entire family.  
Exemplified.Further ex-  
emplified.

\* Medical Transactions, vol. i. art. xvii.

† Select Dissertations, &amp;c. p. 209. 8vo. 1822.

‡ Vol. iv. 1775.

§ Journ., vol. xix. pp. 376—378.

GEN. III.  
SPEC.  
Empyesis  
variola.

have passed through its course satisfactorily, at different intervals, varying from six to two years. A fifth child, which had not been vaccinated, received the small-pox at the same time, and passed through it in much the same manner, but rather more mildly than one or two of the other instances. The eruption was in every instance distinct and pustular, though, in one or two, a few vesicles were interspersed.

Marvellous  
case of small-  
pox recurring  
to the seventh  
time ;

That erroneous statements upon the subject of a recurrence of small-pox have been very numerous given to the world is unquestionable ; among which we can find little difficulty in placing that of Borelli, containing the history of a woman who recovered from seven distinct attacks of small-pox, and died on the eighth ; the antecedent eruptions having doubtless been those of some other exanthem or cutaneous efflorescence : but cases, thus clear and incontrovertible, are sufficient to establish an occasional departure from the general law, and teach us to look without a scoff upon the assertion of Rhazes and Avicenna, and the far earlier one of Aaron, that the disease occasionally occurs a second, and, in some instances, where there is a strong predisposition to it, even a third time.

being a mistake  
of some other  
exanthem.

Other exan-  
thems evince a  
like anomaly.

A like deviation from the ordinary path of procedure, impresses us in the history of other exanthems. The same general law prevails very strikingly in measles and scarlet-fever ; but we have also a law of exceptions ; and the exceptions in one disease seem to hold a steady proportion to those in another. They are most frequent in scarlet-fever, fewer in measles, and still fewer in small-pox. In plague, the general immunity lasts but for a few weeks ; yet some, who have recovered, seem to be protected for a much longer time, and several for life. In influenza, it extends through the whole duration of the existing epidemy, but the susceptibility recovers itself against the next visitation. In some remittents, as yellow-fever, the patient continues little susceptible for many years, perhaps for the whole of his natural existence : in intermittents, the susceptibility, on the contrary, is very generally increased ; for the man who has once suffered from an ague, catches it again more readily than another. \*

A high degree  
of fever not  
necessary for  
security in any  
exanthem.  
This principle  
illustrated.

A high degree of fever is not necessary to emancipate the system in any exanthem, and consequently not in small-pox. It is upon this principle that inoculation takes its stand in vaccinia, as well as variola. Febrile commotion, as we have observed already, though necessary to throw the morbid poison to the surface, is only necessary in a small, and sometimes an almost imperceptible degree ; and if it be urged beyond this, the morbid poison will be increased in quantity, the ferment will acquire a wider assimilation, and hence the fever and the eruption always maintain a balance. Provided the entire system submits to the influence of the contagion, the emancipation is always as perfect under a small product as under a large ; and it is wonderful to observe how completely this influence extends through every part of the system, often indeed without any disturbance whatever, upon a deposit of the minutest particle of variolous contagion under the cuticle ; for we are perpetually witnessing cases, or rather *were*, when variolous inoculation was more frequent, in which a full change has been operated on the entire frame, though the only pustule has been

Every part of  
the system  
affected, how-  
ever small the  
virus applied.



that excited at the puncture; and the individual, before liable to the disease, is become liable no longer. And that the blood itself, and therefore every particle of the blood, is equally influenced in such circumstances, and even charged with the nature of the virus, is obvious from the frequent communication of the disease from a pregnant woman to the fœtus; and this too at times where the mother is no sufferer from the disease herself.

A remarkable example of this last fact is given by Dr. Mead in the following words: — "A woman who had formerly had the small-pox, and was near her reckoning, nursed her husband who had caught it. At her full time, she was delivered of a dead child, whose body was covered over with pustules; a manifest sign that it died of the small-pox before it was brought into the world." \* Mauriceau has another case or two to the same effect †; and others have since occurred.

In these cases, there is no assimilation or multiplication of morbid leaven; and influence is indubitably exercised, and that, too, over the entire current of blood, for it could not otherwise reach the fœtus; yet, without any sensible effect on the mother. What is the nature of this influence? Is it by an infinitesimal division of the minute drop of contagion inserted into the skin, or that received by the breath? Whatever be the way, it enables us to be less surprised at the mode by which family taints, as gout, scrofula, and phthisis, are transmitted from generation to generation.

Unborn infants do not always receive the small-pox under the same circumstances, nor in every instance even where the pregnant mother sickens with the disease. Sir George Baker, who was indisposed to credit these singularities, refers to two instances, in which the mothers, having been inoculated, had passed through the eruption favourably, and brought forth infants, both of whom, three years afterwards, were also inoculated with good effect. ‡ From all which we collect, and we can do no more, that a like variation occurs before birth, as we have just observed occurs afterwards; and that different individuals, or even the same individual under particular circumstances, evince a different degree of susceptibility; so that the contagion, though resisted at one time, is readily received at another.

There is another feature in the physiology of small-pox, that is peculiarly worthy of notice; and that is the power, which all deep-seated organs possess, of opposing a lodgment of the pustulous inflammation on their own surfaces, and driving it altogether externally, where it can do least mischief. Dissections have abundantly shown, that the viscera and cavities of the interior are never affected with the eruption: except such as, like the skin, are exposed to the approach or ingress of air, as the nose, mouth, trachea and its ramifications, and the entrance of the meatus auditorius. As a general rule, pustules are never found in the rectum; but, if there be any prolapse, that part of the rectum which concurs in the exposure will share in the common fate of the external parts. §

GEN. III.

SPEC.

Empyema  
variola.Fœtus affected  
from the  
mother: some-  
times when the  
mother is un-  
affected.Remarkable  
example from  
Mead.Mysterious  
nature of this  
influence.Fœtus not al-  
ways affected.Illustrated  
from Sir  
George Baker.Deep-seated  
organs admit  
no eruption on  
their surface;  
and drive it  
towards the  
skin.Proved from  
numerous dis-  
sections.

\* De Variolis, cap. iv.

† Sur la Grossesse, et l'Accouchement des Femmes. Obs. 600. et 576.

‡ Med. Trans., vol. ii. art. xix.

§ Andral asserts (Anat. Pathol., tom. ii. p. 225.), that variolous pustules have never been noticed in the bowels, though enlarged follicles have sometimes been

## GEN. III.

## SPEC.

Empyesis  
variola.

How far the  
atmosphere  
of contagion  
extends, not  
fully known ;  
but apparently  
very limited.

Appearance of  
the eruption  
at different  
periods from  
the time of  
infection.

Sometimes  
six days after-  
wards: some-  
times twenty-  
one.

Action quick-  
ened by in-  
oculation.

To what extent variolous contagion is capable of radiating, as it issues into the atmosphere from a diseased body, has never been satisfactorily determined. In laying down the general rules of febrile miasm, I ventured to state, that contagion or miasm, generated in the living body, does not appear to be very volatile in any instance, and soon dissolves in a pure atmosphere. The contagion of small-pox seems fully to be governed by this law. When small-pox was more frequent than at present, medical practitioners, though passing casually from house to house, were rarely, if ever, accused of communicating the disease ; and Dr. Haygarth has appealed to an evidence of facts in proof, that the sphere of variolous contagion does not include a diameter of fifteen hundred feet, and probably not a hundredth part of such a diameter.

As the susceptibility of small-pox varies so considerably in different individuals, it is not to be wondered at, that the irritability of the system to its influence should vary also, and consequently that there should be some difference in the period of time between the supposed communication of the disease and its appearance by any manifest tokens. Upon the whole, the interval may be calculated to vary from six to twenty-one days in the natural small-pox ; and in the inoculated, which anticipates the action a day or two, from four days to eighteen.

The writers on this disease have subdivided it into an endless multiplicity of forms ; but the four following varieties are sufficient to include the whole : —

$\alpha$ Discreta.	Distinct small-pox.
$\beta$ Confluens.	Confluent small-pox.
$\gamma$ Degener.	Crystallised-pox.
	Horn-pox.
$\delta$ Inserta.	Inoculated small-pox.

$\alpha$  E. Variola  
discreta.

The pathognomonic characters of the first variety, or DISTINCT SMALL-POX, are the following : — Pustules pea-sized ; distinct, distended, circular ; the intervening spaces red ; the fever ceasing when the eruption is complete.

Diagnostics.

The disease opens its battery with the usual signs of a febrile cold fit, accompanied with vomiting, and some degree of soreness in the throat. \* About the fourth, sometimes on the third day, the eruption begins to appear on the face, neck, and breast, in minute flea-bite spots (papulæ), which multiply every night for the ensuing four days, when there is usually a pretty full crop of them over every part of the body, though the face is, in almost all cases, far more

mistaken for them, especially in children, in whom these organs are always considerably developed. In what are called putrid or malignant cases, the disease, according to Andral, is complicated with gastro-enteritis more or less severe, that has, on the one hand, modified the eruption, and, on the other, reacted upon the centres of the nervous system. After death the digestive tube presents changes, which vary in different instances from slight congestion to complete ulceration. — EN.

\* The patient is first of all generally seized with languor, drowsiness, vomiting, and pain of the head and loins. The pain in the loins, the sickness, and a tenderness of the epigastrium, present themselves in a strongly marked degree amongst the incipient symptoms of small-pox. — ED.

covered than any other part; and that, according to Camper, in the proportion of five to one.\* The head, face, hands, and wherever else the pimples show themselves, gradually swell, and the eyelids are often so much distended as to close the eyes and produce blindness; the spaces between the pimples are reddish, and continue to grow redder as the pimples become pustules and ripen; the fever is of the caumatic or inflammatory kind, and the suppuration is complete on the eighth day, or thereabouts. On the eleventh, the inflammation and pustules manifestly abate, and the latter, measuring the diameter of a pea, dry away by degrees and scale off, and wholly disappear on the fourteenth or fifteenth day, with the exception of those on the extremities, which, as they come out later, commonly continue a short time longer.†

Such is the ordinary course: but the symptoms vary greatly in severity according to the degree of fever and extent of the eruption, which, as already observed, hold a pretty accurate balance. Where the pimples are few and scattered, there is but very little indisposition; but where they are very numerous, though still distinct, the soreness, swelling, and febrile heat are very distressing: and, under this form, the progress of the disease has often been divided into four stages, an incursive, an eruptive, a maturing, and declining or scabbing ‡, at each of which it discovers an exacerbation of pyreptic symptoms. And when the patient is an infant, it is at these times, and especially on the incursion of the disease, occasionally attacked with a convulsion fit, or perhaps several in succession. §

The grand principle in the treatment of small-pox, as of all the other exanthems that have passed before us, is to moderate and keep under the fever; and, however the plans that have been most celebrated for their success may have varied in particular points, they have uniformly made this principle their pole-star; and have consisted in different modifications of fresh air, cold water, acid liquors, and purgative medicines: heat, cordials, and other stimulants having been abundantly proved to be the most effectual means of exasperating the disease, and endangering life.

\* Les Avantages de l'Inoculation, &c. Paris, 1782. The small red spots (papule) rise, as Dr. Elliotson describes, into elevated pimples, and these again into hard tubercles (tubercæ). The pimples become pellucid, and, on the fifth day, counting from the first attack of feverishness, headach, &c. they become pustules, with opaque, white, purulent contents, and those which are large are generally depressed in the centre. See Lect. at Lond. Univ., as published in Med. Gaz., vol. xi. p. 273. — ED.

† According to Dr. Elliotson's description, it is on the eighth day that the face swells, and the eyes begin to be closed from inflammation, if there be much eruption. On the eleventh the pustules are at their height, as full and numerous as they will be; and the swelling of the face, the running of the mouth, and inflammation of the fauces, subside, and then the hands and feet swell; first the hands, and afterwards the feet. Dr. Good has omitted to mention, in his general description, what is termed the *secondary fever*, which occurs when the suppuration of the pustules is complete, about the tenth or eleventh day. — ED.

‡ J. P. Frank, De Cur. Hom. Morb. Epit., tom. iii. p. 159.

§ On this subject the following remark by Dr. Elliotson is no doubt very correct: — "It is said, that one fit forebodes a mild disease, whereas several forebode a severe disease; but, I should suppose, that if the child had no fit at all, it would forebode something still better. When the eruption is taking place, if the individual be an adult, there is frequently a great tendency to profuse sweating." — ED.

GEN. III.

SPEC.

α E. Variola discreta.

Symptoms vary according to the degree of fever and extent of eruption.

Convulsion fits frequent in infants on the incursion of the disease.

General treatment.

Leading principle.



## GEN. III.

## SPEC.

α E. Variola discreta.

Mead showed no preference to one purgative above another.

Mercury seems to possess a specific influence.

Proofs of this.

Exposure to fresh and cold air.

Cold water.

Mineral acids.

Dr. Mead seems to have been almost indifferent as to the kind of purgative employed, and certainly gave no preference to mercurial preparations. His idea was, that all were equally beneficial that would tend to lower the system: "Indieum," says he, "certè satis manifestum, quæcunque materiæ diminutionem, fomitem igni subtrahendo, huic morbo apprimè convenire." And, in this manner, he accounts for the mildness of the malady after any great evacuation, natural or artificial; after acute diseases, immoderate catamenia, child-birth, and salivation.

Mercury, however, appears to have a specific influence upon the action of variolous matter; perhaps, as in the case of syphilis, upon the quality of the matter itself: for though, when considerably diluted with water, it is still capable of propagating the disease by inoculation, yet Von Wënsel has shown satisfactorily, that when triturated with calomel it loses its energy, and in inoculation becomes inert and useless. Mercury has hence been denominated, in Germany, *remedium pancreston*, and has certainly supported its character as the best corrector of the small-pox we are acquainted with, from a period antecedent to the introduction of inoculation into Europe, to the present day. "Physicians who attend hospitals," says Sir George Baker, "have frequently observed the small-pox to be particularly mild in those patients who have happened to receive the infection soon after a mercurial ptyalism; and inoculation is said to have been a much more successful practice in some of our American colonies since the use of calomel has been there introduced into the preparative regimen." When given merely as a purgative, it is usually mixed with the powder or resin of jalap, and, in this manner, acts more briskly.

Exposure to fresh and cold air is nearly, if not altogether, of as much service as calomel; and hence the advantages of a cool capacious room. Cold water is usually prescribed in large draughts for the same purpose, and very generally proves highly refreshing. The acids, and especially the diluted mineral acids, have a peculiar influence in diminishing the extent of the eruption; insomuch that some inoculators have been bold enough to prophecy the number of pustules a patient would produce under a given quantity of the acid. Whether any one of the acids has an intrinsic power beyond the rest has never been sufficiently put to the test of enquiry; nor is it clearly ascertained in what way they operate towards the present effect. They are an excellent refrigerant in fevers of all kinds; but, in small pox, there seems to be a something beyond this power, and they probably restrain the process of assimilation.

Lemonade may conveniently form the common drink during the fever; or a solution of cream of tartar in water, which, as tending to keep the bowels gently open, will be preferable. When the fever is considerable, the purgative should be repeated at each of its exacerbating stages; and if convulsion-fits arise, the spasmodic irritation is best removed by laudanum.\*

\* The utmost cleanliness; plenty of clean linen; a mild antiphlogistic diet, in the first instance; cold, or tepid ablution, if the body be hot; washing the patient and room with the chlorides; bleeding in adults, if the head be much affected, or, at any rate, the application of leeches; and aperient medicines; are the means of relief specified by Professor Elliotson. (See Lect. delivered at Lond. Univ. as published in *Med. Gaz.*, vol. xi. p. 279.) When debility comes on, he recommends wine and stimulants. — *Ed.*

The pathognomonic characters of the CONFLUENT VARIETY are the following: pustules confluent, flaccid, irregularly circumscribed; the intervening spaces pale; with great debility.

In this variety, the eruption assumes, at first, the appearance of a general efflorescence, without any distinctive points; innumerable pimples, however, show themselves about the third day, being a day or two sooner than in the discrete variety. They soon coalesce from their thronging number, and become filled, not with pus, but a yellowish serum, for this variety seldom suppurates regularly.\* The fever is violent, and exhibits a synchous or typhous type; and, instead of subsiding on the appearance of the eruption, as in the distinct variety, very generally increases. The head is oppressed, the eyes inflamed, the brain comatose or delirious. After the eighth day, the detached pellicle, covering a large secretion of this virulent fluid, becomes brown and not yellow as in the distinct sort. Peculiar to the confluent small-pox are salivation in adults, and a looseness in children; the former always attends, the latter more rarely. The spitting begins as soon as the eruption appears, or within a day or two afterwards: the saliva is at first thin, and easily and plentifully discharged; but towards the eleventh day, which is the period of the greatest danger, it becomes viscid, and is discharged with great difficulty: the looseness in children, however, continues beyond this period.†

When the disease terminates favourably, the swelling of the face about this time begins to abate, and that of the extremities commences. But if the constitution be incapable of counteracting the weakness under which it is suffering, or the mass of disease with which it is oppressed, and particularly the exacerbating or secondary fever, as it is called, which takes place at the stage of maturation, the cuticle suddenly becomes flattened, the features sink, the pustules are depressed; the coma increases, flea-bite spots are sprinkled over the body, succeeded often by hemorrhages; the pulse flutters, and the patient expires; usually, as already observed, about the eleventh, but sometimes not till the sixteenth day.

In the commencement of this variety, the same reduceent plan is to be pursued, as already recommended in the preceding variety; and the affusion of cold water may be added to a free use of fresh and even cold air. Bleeding is a doubtful remedy, and its propriety must entirely depend upon the constitution or habit of the individual, and the nature of the prevailing epidemic. In a state of high tonic health, and firm elastic fibre, it may be allowed, and perhaps repeatedly: but we should always bear in mind, first, that the plenitude of the disease does not so much depend upon the strength or weakness of the frame, as upon its susceptibility of the contagion, and irritability beneath its action; and next, that in confluent small-pox the process of maturation does not take place kindly or perfectly, and that the fever, often a synchus, has always a tendency to run into a typhus, particu-

GES. III.  
SPEC.  
§ E. Variola  
confluens.  
Diagnostics.

Prognosis.

Remedial  
treatment.

Bleeding a  
doubtful  
remedy.

\* Frequently petechiæ, vibices, and ecchymoses are seen between the pustules — red, dark-coloured spots of various sizes. — ED.

† Sometimes there is bloody urine, or blood in the motions. Blindness, phthisis, and diarrhœa, ending in ulceration of the intestines, are more frequent consequences of V. confluens than of V. discreta. — ED.

GEN. III.  
SPEC.

β E. Variola  
confluens.

Tone of the  
system to be  
supported.

Camphor.

Diffusible  
stimulants.

Cinchona.

Wine some-  
times necessary  
in the se-  
condary fever ;

and opium :  
where a diar-  
rhœa, however,  
it demands  
great caution in  
checking it.

Pustules to be  
opened as they  
ripen.

Often lays a  
foundation for  
subsequent  
evils.

γ E. Variola  
degener.

Peculiar marks.

Explained.

larly when the temperament of the atmosphere predisposes to this type. On this account, it will often be found necessary, and particularly towards the stage of maturation, to support the tone of the system, instead of reducing it. Camphor offers us one of the medicines for this purpose ; and may be given in solution, or in the form of pills. The latter is generally the most convenient, as it can thus be taken in a larger quantity, and needs not interfere with ammoniacal neutrals, ethereal compounds, the acidulated decoction of cinchona, or the same tonic in a more powerful form. If, indeed, on the accession of the secondary fever, the pulse should suddenly sink, the pustules flatten, and the surface turn pallid or purple, wine must be added to the other remedies, blisters or sinapisms applied to the feet or legs ; and, if a diarrhœa should supervene, opium be administered ; though, in the earlier stages of the disease, this last symptom should be very cautiously interfered with. Some part of the secondary fever may probably be set down to the score of the absorbed virus, now thrown back upon the blood from every part of the surface : and, to disarm this source of exacerbation, it may be convenient to open the pustules as they ripen, and let them discharge their contents externally. And, to save the face as much as possible from those exulcerations of the true skin that terminate in pits and scars, a piece of fine linen or cambric, over which some cetaceous ointment has been spread, should be applied.

Small-pox, then, may well be contemplated as a fearful disease. It is so at all times from the uncertainty of its prognosis, but especially when it assumes a severe character.\* And it is so, moreover, not merely on account of its own ravage, but of the tendency it produces to subsequent evils, after its own course has subsided. In many cases, the constitution is incapable of recovering from the general disturbance and debility it has introduced, and hence atrophy, dropsy, and hectic are by no means uncommon results. But it more frequently proves mischievous by stirring up some hereditary taint that might otherwise lie quiet through life ; and, in this way, becomes an exciting cause of scrofula, consumption, and gout.

The HORN or CRYSTALLINE-POCK, it is only necessary to notice, as forming a somewhat singular departure from the usual course of the disease, though not often accompanied with danger, or distinguished by an overloading eruption. Its pathognomonic characters are set down in the Nosological Synopsis as follows : — pimples imperfectly suppurating, ichorous or horny, and semi-transparent.

From some unknown cause, the variolous fluid is, in this variety, secreted and thrown upon the surface in the form of lymph, and is never exchanged for that of pus. As the finer part of the fluid is absorbed, it loses its pellucidity, and the vesicular pimples appear whitish, and preserve this hue till they dry and peel off. This is particularly the case in persons of a fair and delicate skin ; but,

\* The late Mr. Alcock drew Dr. Elliotson's attention to the fact, that the mucous membrane of the larynx and trachea is frequently much inflamed in small-pox, and that there is an effusion of a very thick tenacious mucus from it, such as produces a degree of obstruction in those tubes, that may have some considerable share in occasioning the fatal result of the disease in children. — ED.



where the skin is darker or coarser, they become brown, hard, and horny: and hence it is always in this way that the present variety terminates amongst negroes. Whenever small-pox occurs a second time, it usually shows a tendency to this modification.

It is not a little singular, that Professor Frank should have separated this form of the disease from small-pox, and made it, together with varicella, as already observed, a modification of pemphigus.\* What landmark can the student find when the boundaries of diseases are thus disastrously broken up?

The fourth variety, under which small-pox is to be found, is the artificial modification known by the name of INOCULATION: a most important advantage to mankind before they were acquainted with the equal or nearly equal protection afforded by the virus of cow-pox; when, in the language of Professor Frank, "*ad illud tandem se reductos viderunt; ut victas huic pesti manus traderent, et sic, quasi dæmoni, quo sibi esset propitior, sacrificarent.*"†

Its peculiar characters are thus described in the volume of Nosology:—orange-coloured areola about the puncture; pain in the axilla about the seventh day; disease mostly mild; and the purulent discharge sometimes confined to the punctured parts.

This mode of communicating the disease, like the natural disease itself, appears to have reached Europe from the East, and especially from China; where, according to the statements of the Jesuits‡, it has been practised immemorially by perhaps the simplest and best mean of communication that has hitherto been devised,—that of a needle charged with the contagious matter of a pustule, and introduced transversely under the cuticle. From China the discovery appears to have travelled into India, and thence to Asia Minor. It is not so easy to conjecture how it arrived among the ancient native tribes of Africa, as we know so little of their arriving there themselves. It shows, however, that the disease itself is of a very high antiquity, though it does not seem to have travelled in a very early period of the world into Europe; unless, indeed, we ascribe to it various sources of origin, which is accompanied with the difficulty of our not knowing where to stop, the moment we embrace such a doctrine; for if we once indulge in a plural number, there is nothing to prevent our carrying such number on to infinity. That the disease, however, has from an early period existed in Africa, and has also been counteracted by the employment of a rude kind of inoculation, is now clear from the narrative of Mr. Campbell, whose veracity will not lightly be called in question; and who tells us, that he found both the small-pox and the practice of inoculation in use among the Marootzee, or inhabitants of the city of Kurreechane, about a degree and half to the northward of De la Goa Bay, or  $24\frac{1}{2}^{\circ}$  south latitude. Here the rivers, which before ran westward, were found to flow towards the east, evidently proving, that he had reached the loftiest point of this part of the continent. The natives, it seems, have a tradition that they procured the variolous matter, or rather learnt the art, from a people to the north-east called Mahalatyela, who ride upon ele-

GEN. III.

SPEC.

γ E. Variola  
degener.

With Frank a  
modification of  
pemphigus.

δ E. Variola  
inserta.

Peculiar  
characters.

History.  
Derived prob-  
ably from  
China.

Simple mode of  
communica-  
tion.

Early known  
in Africa, and  
counteracted by  
inoculation.

\* De Cur. Hom. Morb. Epit., tom. iii. p. 264.

† Id. § 334.

‡ Lettres Edifiantes et Curieuses, &c. passim.

## GEN. III.

## SPEC.

8 E. Variola  
inserta.

Practised at  
an early age  
in our own  
country :  
in Wales, and  
remote  
provinces :  
also in the  
Highlands of  
Scotland.

Introduction to  
general notice  
by Lady M.  
Montague.

Tried first on  
condemned  
criminals : who  
recovered.

But the use of  
inoculation  
violently op-  
posed.

Injured also by  
the mischievous  
treatment  
adopted : which  
gradually gave  
way to a more  
rational plan.

Wonderful im-  
provement  
upon the natu-  
ral disease.

phants. They make the incision between the eyebrows. The Booshuanas, however, inoculate also for the small-pox.\*

The first employment of inoculation in our own country seems to have been the result of some fortunate observation, made, like that of cow-pox inoculation, in the rudest parts of it ; for the practice of "buying" the small-pox, which was in fact a communication of the disease by insertion, was prevalent in Wales at a very early period, and appears to have been also occasionally resorted to in the Highlands of Scotland, from an antiquity nearly as remote ; of which abundant proofs are to be found in various articles in the Philosophical Transactions.† All such practice, however, and even the knowledge of it, seem to have been confined to the remote quarters in which it accidentally arose, as late as the year 1721, when Lady Mary Montague, who had witnessed its success in Turkey, and had had a son successfully inoculated there, submitted an infant daughter to the same process at this time in London. Yet, so little acquainted with its success were the public, and even the medical profession, at this period, and so cautious in giving it credit, that an experiment of its effect was ordered to be made in the same year on six condemned criminals, all of whom were fortunate enough to recover, and who thus redeemed their lives. This gave countenance to further attempts ; yet the innovation, like that of inoculation from cow-pox, was sharply and pertinaciously opposed, and not more than seven hundred and sixty-four persons, according to Dr. Jurin's calculation, were inoculated all over England from 1722 to 1727.

Unfortunately, the practice of treating the disease with cordials and a hot regimen at this time prevailed, and was too generally applied to the inoculated, as well as to the natural process, by means of which the former was often rendered a severe, and, in many cases, a fatal disease ; though it was impossible for the dullest intellect to be altogether insensible to its high comparative advantages. By degrees, however, the refrigerant and reducing plan obtained a triumph, and the triumph of inoculation was a synchronous step. Yet half a century afterwards the exploded plan was still persevered in by some practitioners, and it is instructive to mark the comparative mischief that still accompanied it. "I found," says Sir George Baker, writing in 1771, "that in the counties of Essex, Norfolk, and Suffolk, many thousands of people, of all ages and constitutions, and some of them of every apparent disadvantage, had been inoculated with general good success : whereas, at Blandford in Dorsetshire, out of three hundred and eighty-four persons who were inoculated, thirteen actually died, and many others narrowly escaped with their lives from the confluent small-pox."‡ This gives us a direct mortality of something more than one in thirty ; and it is almost needless to add, that, in the successful districts here alluded to, the cooling plan was prevalent, and at Blandford that of hot beds and a warm regimen.

Even this result, however, with all its fatality, offers a wonderful improvement upon the march of natural small-pox ; in which one

\* Travels in South Africa, &c. 2 vols. 8vo. 1822.

† See vol. xxxii., years 1722-3, and especially Dr. Williams's account.

‡ Med. Trans., vol. ii. art. xix. Compare M. Gatti's *Nouvelles Reflexions sur la Pratique de l'Inoculation*. Paris, 1770.



out of every three or four have been computed to die among adults, and one out of every seven among infants; while, wherever the cooling and reducent plan has co-operated with inoculation, the casualties are not more than one in five or six hundred.

Yet, great as is the intrinsic advantage of inoculation even upon its lowest scale, there is one evil which has always accompanied it, and which, in a nation so justly proud of its civil liberties as Great Britain, it is almost impossible to provide against; and that is, the wider diffusion of variolous contagion through the atmosphere by the indiscriminate use of inoculation in all places. And hence it has been very forcibly observed in our own day, by those who have written most warmly in favour of vaccination, that small-pox inoculation is upon this ground a greater public evil than good; since the multitude, who will not consent to be inoculated, receiving the natural disease more generally than they otherwise would do, the total mortality is greater than before inoculation was had recourse to. I was at first induced to think, that this statement was a little too highly coloured for a particular and present purpose. But, on turning to Baron Dimsdale's tables of calculation drawn up nearly fifty years ago, I find him arriving at the very same conclusion; and we may fairly affirm, that the deaths from small-pox, since the introduction of inoculation, have increased in consequence of the more extensive diffusion of variolous contagion in the proportion of fourteen or fifteen upon every hundred. The bills of mortality indeed give us something more than this.

By what means variolous contagion, received by a puncture, becomes so much milder than when received from the atmosphere, is a problem that has never been satisfactorily solved. Something is unquestionably due to the preparatory process of purgatives and a reducent regimen; but as the same mildness of character does not obtain in the natural disease, where the same preparation has been submitted to antecedently, some other power must be sought for. Under inoculation, and with the usual precautions, the eruption is commonly distinct and widely scattered; yet the most striking character in the inoculated form is, that when the eruption is full, and even confluent, the secondary fever, so alarming in the natural disease, is here for the most part slight, and sometimes altogether absent. This exacerbation is usually ascribed to an absorption of the contagion from the pustules; but the feature before us shows, that there must be a something distinct from absorption, though perhaps acting in union with it. Is the virus from the first less irritant, and less capable of exciting much secondary fever, for the very reason that it was less capable of exciting much primary?

It is on this account that variolous inoculation may be submitted to, without danger, by feeble infancy, advanced age, and even cachectic habits in every stage of life; and that the season of the year does not seem to be a matter of great importance. Pregnant women, however, ought never to be exposed to it, nor infants, where there is a choice, till after the irritation of teething.

The operation is perfectly simple: the needle, originally employed in the East, is as good an instrument as any, though the lancet is generally preferred. It is only necessary to deposit a

## GEN. III.

## SPEC.

§ E. Variola inserta.

Yet injurious from the wider diffusion of variolous contagion:

and hence producing a greater average of mortality than the natural disease itself.

Whence the greater mildness of inoculated than natural small-pox.

The inoculated form without secondary fever even when confluent.

Inoculation hence safe in infancy and old age. Should not be performed on pregnant women, nor infants while teething.



## GEN. III.

## SPEC.

§ E. Variola  
inserta.

Mode of  
operation ;  
fluid should be  
taken before  
suppuration.

Progress of the  
inoculated  
disease.

minute drop of the contagion under the cuticle, or at least to make such a wound as may give forth a single drop of blood. It is preferable to take the fluid before the pustule suppurates ; as afterwards it seems to partake of the nature of common pus as well, and produces a larger circle of inflammation, and on this account, also, it cannot so fully be relied on. The puncture does not so completely disappear as in that with vaccine fluid, but it is often scarcely visible for three or four days. At this period, a minute papula may be traced, a little itching is felt, and sometimes there is a slight inflammation. On the sixth day, a pain and weight are felt in the axilla, proving that the lymphatics of the arm have become affected, and that the virus is conveyed into the system. On the seventh or eighth day, the precursive symptoms of transient shiverings, headach, and pain in the back are perceived, and immediately followed by the eruption itself ; though mostly, in this mild form of the disease, the only eruption, as in the inoculated vaccinia, is the pustule on the puncture, or a few which directly surround it. Where the disease spends itself in this manner, the local efflorescence commonly spreads over a larger area than otherwise, and the adjoining lymphatics participating in the irritation, the tenderness and sense of weight are increased in the axilla. Where the symptoms are unfavourable, there is a purplish, instead of a rosy inflammation, or a narrow, deep red circle surrounding the puncture, with a dip or depression in the pustule.

Unfavourable  
prognostic.

Treatment.

The treatment is to be the same as that already pointed out for the natural disease ; but it should vary with the habit, constitution, or age of the individual. Sufficient attention was not always given to this remark formerly ; for the preparatory regimen was a bed of Procrustes, to which every one was alike compelled to adapt himself. Sir George Baker openly complained of this inconsistency in his own day \* ; but, notwithstanding his censure, it was very generally continued.†

\* Med. Trans., vol. ii. p. 282.

† As, in small-pox, the inflammation frequently extends to the eyes, and opacity of the cornea staphyloma, and blindness, may be the consequences, especially when a pustule has formed on the eye itself. The small-pox frequently leaves the constitution in a state in which scrofula is disposed to arise ; the glands of the neck or mesentery enlarge, or phthisis comes on. Frequently, says Dr. Elliotson, it leaves after it rupia and ecthyma, diarrhœa, and chronic inflammation of the mucous membrane of the intestines.

For the prevention of *pitting* various plans have been suggested. In the hospital at New Orleans, in 1830, Dr. Picton kept the small-pox patients excluded from the light, and not one of them exhibited a pit or mark upon the body. Prieking the pustules with a fine needle has been favourably spoken of. Mr. George, of Kensington, has published some observations in favour of covering the pustules of confluent small-pox, situated on the face, with calamine. See Med. Gaz., vols. x. and xi. — Ed.

GENUS IV.

ANTHRACIA.

CARBUNCULAR EXANTHEM.

ERUPTION OF TUMOURS IMPERFECTLY SUPPURATING, WITH INDURATING EDGES, AND, FOR THE MOST PART, A SORDID AND SANIOUS CORE.

THE present genus, denominated ANTHRACIA, from ἀνθραξ, "a burning coal," by its definition embraces two diseases of very different specific characters, though closely according in their generic marks. These are,

GEN. IV.

- |                      |         |
|----------------------|---------|
| 1. ANTHRACIA PESTIS. | PLAGUE. |
| 2. ————— RUBULA.     | YAWS.   |

There have been, however, and still continue to be, great disputes among the nosologists, as to the proper station of both these species, many contending that plague ought not to be regarded as an exanthem, and most writers having hitherto contemplated yaws as an impetigo, or some other dysthetic affection. Dr. Cullen has expressed a doubt whether the first should not be removed from the order of exantheims into that of fevers; Vogel has actually introduced it into this last order; Willan has rejected it from the exantheims. Parr arranges it as an exanthem in his article *Nosology*, having previously, like Willan, rejected it from that division in his article *Cutanei Morbi*. In his remarks subjoined to the article *Nosology*, he again acknowledges that "on reflection it appears improper" to introduce it into the list of exantheims; and, in his article *Pestis*, he asserts more roundly that "there is no foundation for arranging plague amongst the exanthemata, and that it should be reduced to the asthenic remittents." Sauvages, Linneus, Sagar, and Macbride, have entered it in the order in which we have placed it in the present system.

Proper station of these species disputed.

In a few words, there appears strong and almost incontrovertible reason for thus placing it. The fever, as will presently be shown, is eruptive, and as specifically so as that of any of the exantheims; it is contagious like most of them, and, although frequently occurring oftener than once in a man's life, we have the concurrent testimony of all the writers who have been eye-witnesses of its effects, that it renders every one less susceptible for a certain period afterwards, and some for the whole term of their existence.

Reasons for assigning to plague its present place.

With respect to yaws, the diversity of opinion has been quite as considerable as that respecting plague. Generally speaking, it has been placed in the loose and indeterminate class which has been distinguished by the name of cachexies; Sauvages and Sagar arrange it in the order tubera of this class; Cullen in that of impetigines. These writers take little or no notice of any kind of febrile features that accompany it, whether specific or sympathetic.

Reasons for assigning to yaws its present place.

GEN. IV.  
Anthraxia.

Dr. Young pays as little attention to the febrile symptoms by which it is said to be distinguished, and, at the same time, transfers it from the division of caehexies (*cacochymia*, as he denominates them) to the order of paramorphiæ or structural diseases. Dr. Winterbottom and Dr. Dance, on the contrary, contend that a slight fever is its primary symptom; and Dr. Ludford, to whom we are indebted for, perhaps, the best history which has yet been given of this disease, describes it as a proper eruptive fever, totally unconnected with diet, lues, or any other taint in the blood; commencing with alternations of shivering and heat, lassitude, want of appetite, and pains in the head and loins to so great a degree as to prevent sleep; the fever and every inconvenience diminishing after the eruption, and the appetite returning. So that, like small-pox, it appears to have a regular accession, height, and decline, and, as already observed, may be propagated by inoculation, and is never known to occur a second time. Hence Parr, who seems to have long wavered in his opinion concerning the real nature of this disease, regarding it at one time as a *pustulous exanthem*, and afterwards as a mere *cuticular intumescence*, returned, at last, with a decided mind, to his first opinion, and again asserts that "the detail of symptoms shows, that the disease is truly exanthematous."

Hence both  
diseases carbuncular  
exanthems:

and, though  
widely different  
upon many  
points, coincide  
in a common  
generic outline.

This view of the subject will therefore abundantly justify the present arrangement of both these diseases, support their pretensions to the character of carbuncular exanthems, and consequently develop the nature of the connection of yaws with plague, under a nosological method founded on the principle of symptoms. In their individual or specific characters, they are, indeed, highly discrepant; but this is not sufficient to call for a separation, while they agree in the common outline that may form the basis of a generic division. The tall and stately acacia of Egypt and the delicate sensitive plant of our own greenhouses belong to the same genus in botany, however inaccordant they may appear to the eye of an ordinary spectator.



SPECIES I.  
ANTHRACIA PESTIS.  
PLAGUE.

TUMOURS BUBONOUS, CARBUNCULAR, OR BOTH; APPEARING AT AN UNCERTAIN TIME OF THE DISEASE: EYES WITH A MUDDY GLISTENING; FEVER A MALIGNANT TYPHUS, WITH EXTREME INTERNAL HEAT AND DEBILITY; CONTAGIOUS. \*

It is happy for us that, in describing this dreadful scourge, we are under the necessity of referring to foreign countries, or to remote periods in the history of our own, before the great advantage of public cleanliness and ventilation in our streets was sufficiently attended to, or even known. The earliest visitation of the plague that occurs in English history was in the year 430; the last time it appeared as an epidemic was in 1665, and the last notice of it in the bills of mortality was in 1679. In Edinburgh it has not prevailed subsequently to 1645, long since which period it has repeatedly ravaged all the continent of Europe, east, west, north, and south. †

GEN. IV.  
SPEC. I.  
No longer known in our own country: not existing since 1679.

In Edinburgh, not since 1645.

From the diversified and clashing accounts that are given of this disease by different writers and eye-witnesses in different ages, or different parts of the world, we are justified in laying down the three following varieties, which, while they offer the chief points of discrepancy, will be found in their explanation to reconcile the seeming discordancies of established authorities.

α Fructifera.

Common plague.

The disease extending to about the fourteenth day; and relieved by the appearance of the eruption.

\* The difficulty of presenting a definition applicable to all cases may be conceived from the fact, that the disease varies greatly in its appearance in different instances; inasmuch, that even fever is by no means invariably present; and, in rapid cases, death terminates their course before a sufficient time has elapsed to admit of the formation of buboes and carbuncles." (Bateman, in Rees's Cyclop., art. PLAGUE.) The following is Dr. Joseph Brown's definition:—"An exanthematous disease, consisting of buboes, carbuncles, and pustules, white, livid, or black, distributed in various parts of the body, and generally attended with malignant and very fatal fever." Cyclop. of Pract. Med.

† Marseilles, which had previously suffered twenty severe visitations in the course of seventeen centuries, was ravaged by it again in 1720. Moscow suffered cruelly from it in 1771 and 1772; and it prevailed at Noja, in the Neapolitan territories, as late as 1815 and 1816. It appeared in the lazaretto of Venice in 1818; and at Gressenberg, in Silesia, in 1819. In the year 1813 it raged at Malta. With these exceptions, it has of late generally been confined to the northern parts of Africa, the reputed land of its origin, and to those portions of Asia and Europe, which are, or have been, under the dominion of Turkey. See the art. PLAGUE, by Dr. Brown, in Cyclop. of Pract. Med. — Ed.

GEN. IV.  
SPEC. I.  
Anthraxia  
pestis.

β Infructifera.  
Unruptive plague.

γ Erythematica.  
Erythematous plague.

The eruption imperfect or suppressed; transferred to some internal organ; or superseded externally by stigmata and vibices.

The body covered over with trails of vesicular erythema, producing deep, sanious, and gangrenous ulcerations as it spreads, often to the loss of one or more limbs.

The whole of these varieties sometimes co-existing. All of them in the Aleppo plague, 1660-1-2.

The whole of these varieties have sometimes been exhibited in the same epidemic; the last, however, is the least frequent, whether alone or in conjunction with the rest. All of them appear to have been present and intermixed in the Aleppo plague of 1660-1-2, so clearly and strikingly described by Dr. Patrick Russell, physician at the time to the British factory established at that city; for he speaks of the pestilential eruptions appearing under the form of buboes, carbuncles, or OTHER exanthemata; among which last he takes particular notice of an erysipelatous redness, forming streaks of a reddish purple or livid colour, intermixed with vibices and wheals, or large blue and purple spots, the maculæ magnæ of authors; while, in some cases, he observes that an extraordinary concurrence of these eruptions took place, which, however, was chiefly remarked among children under ten years of age.

The first and second varieties in the Barbary plague of 1799, 1800.

Probably also in the plague of Moscow of 1771.

All occasionally occurred in the London plague of 1665; but mostly the first and second:

as also at Noya in 1815.

In the Barbary plague of 1799 and 1800, so fully and excellently described by Mr. Jackson\*, who was an eye-witness to its effects,—the first and second of the two varieties here offered, the fructiferous and infructiferous, were intermixed, while the erythematic seems to have been absent. It was probably absent also in the plague of Moscow of the year 1771, as it is not noticed by Dr. Mertens, who gives a full description of both the other modifications. In the London plague of 1665, all of them seem to have occurred occasionally; the first and the second, however, most frequently, examples of which are to be found in Hodges, Sydenham, Sir Gideon Harvey†, and indeed all the writers; while, in allusion to the last, Sydenham compares the inflammation of the plague, as it often appeared, to that of an ignis sacer, by which he means an erysipelas; in which nature, he tells us, expels the matter of the disease from the blood to slightly elevated tumours dispersed over the surface in broad red patches: only that this *ignis*, says he, is more violent than the ignis sacer‡:—“*ignis noster isto sacro longè diviniore est.*” They seem also to have co-existed in the Neapolitan plague, or rather that of Noya, in 1815, for the police regulations§, as well as the medical descriptions, have a reference to each of these in very distinct terms. ||

\* Account of the Empire of Morocco, &c. 4to. 1809.

† City Remembrancer, passim.

‡ Febris Pestilens, et Pestis Opp., sec. II. class II.

§ Giornale di tutti Atti, Discussioni, e Determinazione della Sopra-intendenza Generale e Supremo Magistrato del Regno di Napoli, &c. Napoli, 1816.

|| Raguaglio Istorico della Peste sviluppata in Noya nell'anno 1815. Napoli, 1816.

In the plague of Athens, on the contrary, as described by Thucydides and Lucretius, we are not sure of the existence of buboes, as not being distinctly noticed, though probably included in the inflammations that are stated to have fallen upon the privities (τὰ ἀνθρώπου), while the last two varieties were perpetually intermixed; the chief eruption, however, being that of the vesicular erythema, the *sacer ignis*, or holy fire, as observed by Sydenham. In consequence of which, Thucydides tells us, that "the surface of the body was neither violently hot nor wan; but reddish, livid, and covered over with an efflorescence of minute vesicles and ulcers," — *ξανθαίνουσι μιν παῖς καὶ ἑλκεσιν* : — but that the interior parts were so burning that the sick could not endure the lightest covering or clothes, and eagerly threw themselves into cold water. And he adds, that the disease, in its ulcerative progress, commencing in the head or the upper parts of the body, migrated over the entire frame, and often fixed itself permanently on the sexual organs, the hands, or the feet\*: the whole of which course is by Lucretius described under the express name of *sacer ignis*, or *holy fire*.†

Et simul, ulceribus quasi inunctis, omne rubere  
Corpus, ut est, per membra *SACER* quom didimus *IGNIS*.‡

One of the severest attacks of plague with which Rome was ever afflicted, was that which made its appearance about the middle of the second century of the Christian era, and is supposed to have been introduced into Italy by the army of Lucius Varus, on its return from Parthia. It is loosely but frequently glanced at by Galen, who adverts on different occasions to various cases in which he was consulted. It was a direct counterpart of the Athenian plague, and hence we meet with all the characteristic symptoms just enumerated. "The body," he tells us, "was stigmatised with ulcerating eruptions § (*ἐξανθισεν ἑλκεσιν*), which were often livid, and ramified in every direction; whilst there was no increase of heat to the touch, even when the patient felt as if burnt up with an internal fire. The discharge from the bowels was, at the beginning, and during the augmentation of the disorder, yellow or reddish, but afterwards black, like drops of blood. The pulse

GEN. IV.  
SPEC. I.  
Anthraxia  
pestis.

In the plague  
of Athens the  
third variety  
chiefly found.

Severe plague  
at Rome in the  
second cen-  
tury: evinced  
all the varieties,  
like that of  
Athens.

\* Hist., lib. ii. 50.

† The descriptions given by Thucydides and Lucretius, being very imperfect in a medical point of view, certainly will not justify a positive inference that the fatal disorder at Athens was the plague. Dr. Bateman believed that the account, as far as it goes, even proves that the epidemic was not the true plague, since glandular swellings are not enumerated among the symptoms. The description of the state of the skin, indeed, seemed to him, as well as Dr. Willan, to convey the suspicion of small-pox; for it is said to have been reddish, or livid, with an eruption of small pustules, or sores. (Thucyd., lib. ii. sect. xlix.) Some of the plagues mentioned by Livy do not appear to have been accompanied by the glandular tumours and carbuncles of the true plague. (Rees's Cyclop., art. *Plague*.) Now, although a few examples of true plague are not attended with buboes and carbuncles, the editor believes, that, in modern times, if any fatal epidemic or contagious disease were to originate, generally or invariably unattended with those symptoms, it would not be regarded by any medical men of the present day as the true plague. Hildebrand adopts the opinion of Haller, that the Athenian plague of Thucydides was only a malignant typhus. Über d. Ansteck. Typhus, p. 22. — En.

‡ De Rer. Nat. vi. 1164.

§ Meth. Med., lib. ii. cap. xii.

|| De Præ sag. ex Pulsu, cap. iv



GEN. IV.  
SPEC. I.  
Anthraxia  
pestitis.

A like attack  
in Syria,  
A. D. 302.  
peculiarly  
marked at  
times by car-  
buncles and  
sacer ignis.

In the reign of  
Justinian,  
A. D. 540. :  
evinced all the  
varieties, but  
commenced in  
its old form.

The erythema-  
tous variety  
often called by  
the Greeks, by  
way of distinc-  
tion, anthrax or  
anthrace; and  
by Willan  
conjectured to  
have been con-  
fluent small-  
pox.

was, in many instances, not much affected, but there was great thirst, and an urgent desire for cold water." And he adds, shortly afterwards, a symptom distinctly noticed by Thucydides and Lucretius, "that from the peculiar stupor of the head, the patient, for a long time afterwards, knew neither himself, nor his friends around him." \*

Eusebius has given us a similar account of the tremendous plague which raged over Syria, A. D. 302, in which, however, he more expressly notices, that the SACER IGNIS was intermixed with the CARBUNCLES, and made a dreadful havoc on the bodies even of the few who lived through the disease; very generally fixing upon their eyes, and rendering them totally blind.† In the correct rendering of his interpreter Ruffinus, "Aeris quoque temperies in tantam corruptionem versa est, ut humana corpora ulceribus pessimis, quæ IGNIS SACER appellantur, necnon et his qui dicuntur CARBUNCULI, replerentur, ita ut ora hominum atque oculos occuparent, et ut siquis forte ex his effugisset mortem, luminibus orbaretur."

In the still more severe and extensive plague, which prevailed in the reign of Justinian, A. D. 540, and which ravaged the greater part of Europe and Asia for at least half a century, all the varieties enumerated in the present classification, appear to have either co-existed or alternated. It commenced, however, according to Agathias, "in its old form," or with buboes as a prominent and early symptom; which chiefly appeared, as Procopius tell us, in the groins, the armpits, or behind the ears, and were attended with violent fever and stupor or phrenitis. "The carbuncle," he adds, "did not always show itself, but, on opening a patient's body after his decease, it was detected in an incipient state." Yet, from the diversity of character the disease at length assumed in different individuals, and after it had spread to an illimitable extent, we are informed by Evagrius, that, though it still continued to be regarded as one and the same malady, it seemed to consist of numerous disorders. In some, like the Athenian plague, as already copied from Thucydides, it commenced in the head, inflamed the eyes, and tumefied the face, then descended into the throat, and destroyed them. In others, there was a violent flux; and in others again, buboes arose, accompanied with a most malignant fever. Not unfrequently, the patient died on the second or third day, with little mental or corporeal suffering. Some became comatose, and suddenly perished in this state; while an efflorescence of the ignis sacer destroyed multitudes.

Dr. Willan, in his posthumous volume published by Dr. Ashby Smith, has taken great pains to show, that the last or erythematous variety, which, by the Greek physicians, was often distinguished by the specific name of ANTHRAX or ANTHRACES, was the confluent and ulcerative small-pox of the present day, which he conceives was as well known to the Greeks as to ourselves. It is not necessary to go over this question again, as the author has already examined it at large in the section on VARIOLA ‡; where he has endeavoured to prove, that we have no real ground for be-

\* De Præsig. ex Pulsû, cap. v.

† Hist. Eccles., lib. vii. cap. xvii. ix. cap. viii.

‡ Suprà, p. 348.

lieving, that either the Greek or Latin physicians were acquainted with this last disease under any form. It is sufficient for the present purpose to remark, that, even in what may be called our own times, both these diseases, the small-pox and erythematous plague, have made their appearance at different dates in the same countries, and under the eye of the same physicians — men whose skill and judgment have received the homage of universal assent — who have never dreamed of confounding or amalgamating them, but have distinctly described the one as a variety of proper plague, and the other as the small-pox, in the ordinary sense of the term; each produced by its own specific contagion, and keeping true to its own symptoms and progress. Such are both the Russells, Forestus\*, Diemerbroeck, Geoffroy of Provence†, Gotwald of Dantzic, Hodges, and, as already observed, Sydenham. The trailing vesications, which constitute the erythematous variety, are called PAPULÆ ARDENTES by Gotwald, in describing the Dantzic plague, which term Dr. Goodwin has correctly translated FIRE-BLADDERS. In their origin, however, they were often as minute as a millet seed, and when larger were, in Holland, denominated GRANUM PIPERIS.

When they were of larger magnitude, there was sometimes a difficulty in distinguishing them from proper carbuncles; whence, by many writers, the two are confounded, or described under a common name. Hodges very properly made a distinction between them, but Forestus and Gotwald arrange them as only modifications of one and the same eruption, and Dr. Patrick Russell seems partly inclined to contemplate them in a similar light, though he speaks doubtfully. “The same eruption,” says he, “appears under various forms, as it happens to be viewed in its different stages; and hence, perhaps, the varieties of the carbuncle have sometimes been erroneously multiplied. I will not be confident of not having fallen into the like mistake.”‡

Gotwald makes not less than four varieties of the carbuncle, as he traced it in the plague at Dantzic in 1709. It is the last of these that constitutes the erythematous form before us. “It is,” says he, “the most curious, as Purman, in his Treatise of the Plague, has well observed. Sitorius calls them pale, livid, ulcerous papulæ: they appear with a high, yellow blister, which seems full of corruption: the circle round it is first red, then of an ash colour; the blister soon falls, and, with the carbuncle, appears scarce so big as a pepper-corn, *continually eating deeper and wider.*”§

To the same effect Forestus: — “Carbunculus ferè autem oritur ex pustula exili, milli seminis magnitudine: interdum vero multi prosiliunt, primò quidem pruritù, deinde rubore, ardore, doloreque vehementi. Hoc verò sensum incremente, pars uritur, crustosumque ulcus *quasi candenti ferro* inducitur, idque vel nigrum, vel cinereum.”|| To which he adds, in another place, “et in ore eorum cernes aliquid pestilentis coloris cum partim *crysipelatosum*,

GEN. IV.  
SPEC. I.

Anthraxia  
pestis.  
Question al-  
ready examined  
and disposed  
of.

Fully disproved  
in modern  
times.

Papulæ ar-  
dentes of  
Gotwald.  
Fire-bladders  
of Goodwin.  
Granum  
piperis.

Properly dis-  
tinguished from  
the carbuncle  
by Hodges:  
but not by  
Forestus and  
Gotwald:  
nor quite accu-  
rately by P.  
Russell.

Carbuncular  
varieties of  
Gotwald.

Papulæ of  
Sitorius.

Forestus.

\* Lib. vi. obs. vi. xii. Schol.

† *Traité de la Peste*, pp. 1. 436.

‡ *Treatise of the Plague*, book i. chap. iv. p. 121.

§ *Historical Account of the Plague*, &c. p. 49. By N. Goodwin, M.D. London, 1743.

|| Lib. vi. Obs. xi. Schol.

## GEN. IV.

## SPEC. I.

Anthraxia  
pestis.

Hodges.

partim colorem habent *depascentibus serpentibus similem per plures partes diffusam.*" \* And in proof that the same variety of eruption did occur also in the plague of London, to the testimony already offered of Sydenham, it will be sufficient to add the following of Hodges. "There were occasionally," says he, "vesications, of size from a pea to a nutmeg, encompassed with a variegated circle, generally reddish. They arose with exquisite and shooting pain, and contained an ichor of a yellowish or straw colour, which was so acrid or caustic, that it soon corroded the vesicle and hurst out, of a colour yellowish, livid, or black. These pustules broke out in many parts of the body; their station and number being uncertain: sometimes few, sometimes many: in one case, *the whole body was covered all over with them.*" †

A general conclusion.

It is impossible that these writers could be mistaken in the nature of the complaint, and have regarded that as plague which was really small-pox: and as they describe, in these passages, the very lineaments of the Athenian plague and other erythematous forms of it among ancient nations, there is no reason whatever for conceiving the physicians of Greece and Rome to have been more deceived than those of recent times.

Synonymous  
with Sauvages'  
erysipelas  
pestilens:

The greater part of these passages precisely correspond with the character of the *erysipelas pestilens* of Lorrain, delineated under this name by Sauvages, who has copied freely both from Sydenham and Hoffman; but which, though he calls it an erysipelas, had, as he admits, the closest affinity with plague in its most malignant form,—"cum atrocissimo morbo pestilenti summam affinitatem habet;" and was in reality this disease in the form before us. "Each," says he, "commences with horror, burning heat, delirium, prostration of strength, vehement pain of the back and head; in each, the burning matter of the disease breaks forth, on the fourth day, on the axillary or inguinal glands, and spreads to the feet in the form of the ignis sacer; in the glands it produces abscesses; in the extremities, gangrene." It is the *mal des ardens* of the French writers; and, in its malignant variety, the *erysipelas gangranosum* of Willan. Much of this difference, however, seems to be dependent upon local or accidental circumstances, and especially upon the state or constitution of the atmosphere. Thus we are told by Sir James M'Grigor, that when the plague first broke out in the Indian army in the course of its laborious expedition to Egypt, the cases sent from the crowded hospitals of the 61st and 88th regiments were, from the commencement, attended with typhous symptoms: while those from the Bengal volunteer battalion, and the other corps encamped near the marshes of El-Hamed, evinced uniformly an intermittent or remittent type; and those that occurred in the cold and rainy months of December and January, an inflammatory character; after which, as the weather became warmer, the disease at Cairo, Ghiza, Boulac, and the isthmus of Suez, wore the form of a mild continued fever. ‡

and the *mal des ardens* of the French writers.

Discrepancies in the varieties accounted for.

Plague of London distinguished by a peculiar constitution of the atmosphere.

The plague of London in 1665, was, in like manner, distinguished by a peculiar constitution of the atmosphere, which excited an epidemic synochus of great violence and danger, often accompanied

\* Forestus, obs. xii. Schol.

† Loimolog., p. 110.

‡ Medical Sketches of the Expedition, &c.



with symptoms of rheumatism or pleurisy, and which seems to have added considerably to the progress and mortality of the plague. Sydenham expressly calls it a pestilential fever, *febris pestilentialis*; and adds, that the fever of the plague, after it had broken out, so completely assimilated itself to its character, that, in the second or infructiferous variety, it was extremely difficult to distinguish between the one and the other.\*

In like manner Thucydides expressly tells us, that whatever incidental complaint any person was labouring under during the plague at Athens, it was sure to run into this disease, which swallowed up every other. Yet he adds, that at the commencement of the plague, complaints of all kinds were peculiarly uncommon; inasmuch that, by the acknowledgment of every one, the year seemed to have enjoyed a general immunity.†

The plague at London first attracted attention about Midsummer, and augmented in its destructive ravage till the autumnal equinox, at which time about eight thousand died within the bills of mortality in the space of a week, though two-thirds of the inhabitants, at least, had fled into the country to avoid the infection. From this time, it suddenly put on a milder character, and made fewer attacks; nearly ceased, as is uniformly the case, with the cold of the winter; and totally vanished by the spring: the epidemic fever, nevertheless, remained for a twelvemonth longer, though this, also, was both less common and less virulent.

As Sir Gilbert Blane observes, it is incontestably established by the experience of ages, that the disease of the plague cannot co-exist with a heat of atmosphere above 80°, nor a little below 60°.‡ It never fails to disappear in Egypt at the summer solstice, the heat being then pretty uniformly at 80° or upwards. Its chief prevalence, therefore, is in Lower Egypt. It is almost unknown in Upper Egypt; totally so in Abyssinia, in Mecca, and the southern parts of Arabia.§ On the contrary, it appears, from the history of all the plagues, of which there is any account in England, that they have never begun to appear epidemically but in the end of June, or about the beginning of July; that they proceed increasing till September, when they are at their acmé, and then decline till they entirely subside in winter, with the exception of a few sporadic cases.¶ The influence of temperature is, indeed, striking in numerous diseases, and even in many of those that issue from a specific contagion, of which we have already given an impressive example in its effects on syphilis in the West Indies.

[Dr. Bancroft has brought forward various observations, made by himself, in proof of the influence of atmospheric heat and cold, in both their extremes, in rendering the contagion dormant, or in

GEN. IV.  
SPEC. I.  
Anthraxia  
pestis.

Its course,  
height, and  
decline.

Proper tem-  
perature of  
plague.

\* Sect. ii. cap. i.

† Hist., lib. ii. 49.

‡ Select Dissertations, &c. p. 314. 8vo. 1822.

§ The plague, therefore, may be said to be endemic in Egypt, where it arises every autumn, and prevails till the beginning of June in the ensuing year. By some the vernal equinox is said to be the period of its greatest fatality; by Sir John Webb, however, the month of November. In the spring, the southerly winds, which pass over the deserts and the lakes left by the waters of the Nile, blow three or four hours a day for several weeks. In June the country is refreshed and rendered healthy by cool breezes from the north. See Larrey, *Mém. de Chir. Mil.*, tom. i. — Ed.

¶ Select Dissertations. Also, Russell on the Plague; and Bancroft on Yellow Fever, p. 579.

GEN. IV.  
SPEC. I.  
Anthraxia  
pestis.

Persons from  
hotter climates  
than Egypt at-  
tacked in the  
latter country,  
when indivi-  
duals from  
England  
escaped.

Like control-  
ling agents to  
be found in all  
quarters.

Symptoms as  
they occurred  
in the plague  
of Moscow.

Prognostics.

suspending that susceptibility or affinity of the human body, without which it cannot produce disease in ordinary circumstances. Pestilential contagion, he observes, probably exists at all times in Lower Egypt, Syria, and many of the great cities of the Levant, and it is frequent on board Turkish and Greek vessels. When he was in Egypt, he remarked, that the obvious effect of heat in lessening the susceptibilities of individuals, or their aptitudes for taking the disease, was most evident in those who had lately arrived from cold climates, and who were comparatively most affected by the summer's heat. "There were, however, persons in Egypt," he adds, "who had been long accustomed to greater degrees of heat, and who were therefore not rendered insusceptible of the disease; and some few of these caught it after it had become extinct in the British army, and when a person landed from England would not receive it, though he slept in an infected bed; and it was from this cause, that, in the autumn of the same year, the disease began at Rosetta nearly two months before the usual time, i. e. on the 13th of September, when I first discovered it in two natives of the East Indies, attached to the Indian army; and it was propagated with some rapidity, for six or eight weeks, among persons who were either born in, or had just come from, a climate *much hotter* than Egypt."\*]

The same controlling circumstances take place all over the world: and, in studying the history and progress of the disease, we must allow for the changes they effect. Dr. Mertens has well described this progress in the plague of Moscow of 1771, at which time he presided over one of the largest hospitals of the imperial capital, and was an eye-witness to its ravages.† Having noticed its liability to modifications from several of the above causes, he tells us that, in general, it begins with headach, giddiness, horripilation, prostration of strength, fever, nausea, vomiting, redness of the eyes, a dejected countenance, and a white foul tongue. A tickling, attended with slight pains, is perceived in the parts where the buboes and carbuncles afterwards break out. "The former," says he, "are glandular swellings, not acutely painful, and more or less elevated; usually seated in the groins or armpits, but occasionally occurring in the neck, cheeks, and other organs of the body." The latter he describes very nearly in the words already employed in the specific definition of the carbuncle or anthrax in the preceding pages of this work, though he observes that, "in the plague, this tumour evinces somewhat less prominence, pain, and inflammation than when it arises as an idiopathic affection."

"Many," he tells us, "died on the first or second day of the attack, before either of these kinds of tumours made their appearance." In such cases, an eruption of petechiæ, maculæ, or vibices, like what occur in putrid fevers, usually took place a few hours before death; but sometimes the disease was so sudden as to outstrip the march of these active precursors of dissolution. Almost all who died, were cut off on or before the sixth day, inasmuch that those who reached the seventh were pronounced to be out of danger.

\* Bancroft on Yellow Fever, p. 591.

† Observationes Medicæ de Febribus putridis, de Peste, nonnullisque aliis morbis. Vindobon. 1778.

The disease was introduced into Moscow by a communication with the Turkish army; it made little progress during the earlier part of the year, but became fearfully fatal with the advance of summer, and gradually died away with the frost. The mortality was tremendous. Seventy thousand inhabitants were cut off in a few months, twenty-two thousand in a single month, and sometimes twelve hundred in twenty-four hours. Notwithstanding which, by cautiously blocking up every avenue except one to the large hospital over which he was appointed physician, and keeping a strict and constant guard at the entrance thus left open, although the building was in the midst of the city, it was maintained perfectly free from infection, while the disease raged around it in every quarter.

Mr. Jackson's account of the plague at Morocco is in perfect consonance with this description, though it contains a feature or two in addition, which probably became more prominent from the higher temperature of the atmosphere. "The symptoms of this plague," says he, "varied in different patients; the variety of age and constitution gave it a like variety of appearance and character. In some, it manifested itself by a sudden and violent shivering; in others, by a sudden delirium succeeded by great and unquenchable thirst. Cold water was eagerly resorted to by the unwary and imprudent, and proved fatal to those who indulged in its momentary relief. Some had one, two, or more buboes, which formed, and became often as large as a walnut in the course of a day: others had a similar number of carbuncles; others had both buboes and carbuncles, which generally appeared in the groin, under the arm, or near the breast. Those who were affected with a shivering, having no bubo, carbuncle, spots (*vibices* or *maculae latae*), or any other disfiguration (eruption), were invariably carried off in less than twenty-four hours; and the body of the deceased became quickly putrefied, so that it was indispensably necessary to bury it in a few hours after dissolution.

"The European merchants shut themselves up in their respective houses, as is the practice in the Levant. I did not take this precaution, but occasionally rode out to take exercise on horseback. My daily observations convinced me that the epidemy was not caught by approach, unless that approach was accompanied by an inhaling of the breath, or by touching the infected person."

This last remark is in strict agreement with the observations of the best medical writers of modern times who have witnessed the disease in different countries and climates; and the wholesome practice of drawing a line of demarcation, and thus cutting off all communication with the sick, is founded upon the same view. Assalini traces the progress of the plague among the French army in Egypt with great care, and asserts, that even those who associated with the sick were seldom affected unless innated in their rooms, and instances the small degree of danger there is from casual intercourse by showing how very rarely the medical attendants suffered. Dr. Frank the younger, who was with the French army at the same time, visited his patients closely and frequently, but never ventured to feel their pulse.\* Baron Larrey †, however, who dis-

GEN. IV.

SPEC. I.

Anthraxia  
pestis.Origin and  
mortality.Advantage of a  
strict separation  
from the  
infected.Plague at  
Morocco ac-  
cordant with  
the above de-  
scription.Rapid putre-  
faction.Miasm spread-  
ing to only a  
small distance  
from the dis-  
eased.Remarks coin-  
cident with  
general observ-  
ation.

\* De Poite, Dysenteria, &amp;c. 8vo. Vienn.

† Mém. de Chir. Militaire, t. i.



GEN. IV.

SPEC. I.

Anthraxia  
pestis.Fresh persons  
less safe than  
those accus-  
tomed to the  
miasm.Tremendous  
mortality.Order of erup-  
tion, buboes,  
carbuncles,  
livid fire and  
petechiæ.

tinguished himself so much by his medical services in that expedition, declares that, when the disease is slight, there is little or no danger, either in touching the patient's pulse, "du bout des doigts," or in opening buboes or carbuncles, or touching small portions of his body or his clothes, "par des petites surfaces;" nor even in going into his apartment, if well ventilated.]

Yet fresh persons are far less safe than the stated inhabitants of an infected place, who have been gradually inured to the influence of the morbid miasm. "Families," says Mr. Jackson, "who had retired to the country to avoid the infection, on returning to town, when all infection had apparently ceased, were generally attacked and died. After the mortality had subsided at Mogadore, a corps of troops arrived at the city of Terodant, in the province of Suse, where the plague had been raging and had subsided: these troops, after remaining three days at Mogadore, were attacked with the disease, and it raged *exclusively* among them for about a month, though they were not confined to any particular quarter, many of them having had apartments in the houses of the inhabitants of the town."

As in the plague of Athens and of London, "the mortality," continues the same author, "was so great that, the living not having time to bury the dead, the bodies were deposited or thrown together into large holes, which, when nearly full, were covered over with earth. Young, healthy, and robust persons, with strong stamina, were, for the most part, attacked first, then women and children, and, lastly, thin, sickly, emaciated, and old people." The depressing passions of fear and grief had also a strong predisposing effect: a few suffered twice. Morocco lost a thousand upon an average daily, when the infection was at its height, being about the maximum that fell at London; Old and New Fez from twelve to fifteen hundred; Terodant about eight hundred. The total loss sustained in these three cities and in Mogadore was estimated at one hundred and twenty four thousand five hundred souls; not quite equalling, however, the mortality that desolated the coast of Provence from the same disease in 1720-1, and particularly the three towns of Marseilles, Toulon, and Aix, in which the first of these lost half its inhabitants in a short time, and the second sixteen thousand out of a population of twenty-six thousand, the destruction throughout the entire province amounting to two hundred thousand souls: but this was before the laws of quarantine were perfected and rigidly carried into execution. Dr. L. Frank calculates the average population of Cairo at three hundred thousand, and its annual mortality from plague at seven thousand: yet, when the disease proves very mild, he thinks it may not be more than a fifth part of this number.\*

In the regular progress of the disease, buboes make their appearance first, and about the second or third day from the attack; then carbuncles and ignis sacer, if either of these occur at all; and, lastly, as the danger increases, petechiæ and vibices. But, as already observed, where the plague shows great malignity from the first, it opens with petechiæ and vibices, and sometimes kills in a few hours, even before buboes have time to appear.

\* De Peste, &amp;c. ut suprâ.

Buboes, in the opinion of all the practical writers, or nearly without an exception, are a critical mark of the disease, and the natural means of conducting it to a favourable termination: "but in order," says Mertens, "to their proving beneficial, they must undergo perfect suppuration." In many instances, they neither inflame nor become painful; and in others, they suddenly disappear after having reached the size of walnuts. In the former case, they afford no relief; in the latter, death is almost sure to follow speedily. [Dr. Bancroft's mode of accounting for these facts will be hereafter noticed.] The earlier buboes make their appearance the better; and, upon a free suppuration, they certainly render the patient less susceptible of the disease afterwards. In the opinion of M. Sotira, indeed, and of most of the French medical staff appointed to the Egyptian expedition, they prove an indemnity for life: yet, the examples of a second attack are too numerous to allow us to adopt this opinion as a general rule.

The fact of the occurrence of the plague in the same individual more than once, is, indeed, fully established upon the best authorities, although the point has been sometimes disputed. Mertens says of the plague at Moscow, "*Experientia comprobatum sit, hanc (pestem) illos non solum in variis vite periodis, sed et eadem epidemia, bis aut sepius occupare potest.*" \*]

Mr. George Smith, surgeon of the Russian Imperial Land Cadet corps of nobles, was twice a sufferer from the plague at Bucharest in the year 1772, as I think, and had the rare privilege to recover from both assaults. But that an exception for a considerable term of time is hereby very generally obtained, is established by innumerable examples; of which M. Mathias Degio, one of the surgeons attached to the same establishment, affords us a striking instance in his own person. "Perceiving," says Dr. Guthrie, "the gentlemen of his profession condemned, in a manner, to death, if punctual in their duty, he had the resolution to inoculate himself for the plague, in a full confidence of its efficacy: and ever afterwards found himself invulnerable, while his companions around him were falling victims to its fury." † And to the same effect we are informed by Dr. P. Russell, that, in four thousand four hundred cases of infection, he only met with twenty-eight of a well-ascertained renewal of disease. ‡

[The contagion of the plague, like that of typhus, and unlike that of small-pox, may infect a person a second time, though his chance of being so attacked is very considerably diminished. Dr. Bancroft says, "Two cases of reinfection, or second attacks of plague, fell under my observation in Egypt: one occurred in Mr. Webster, then an assistant surgeon, and the other in a soldier of the 27th regiment, each of whom had a bubo: they were, however, but slightly disposed, the weather having become hot. Dr. Buchan had a second attack, but with only a small carbuncle, as he informed me. Dr. Price had also a second attack, without either a bubo or carbuncle, but, according to his own account, with a violent affection of the head and nervous system. In general (he

GEN. IV.

SPEC. I.

Anthraxia  
pestis.Buboes a  
critical and  
favourable  
mark:but to this end  
should be per-  
fectly suppur-  
ated; and then afford  
the surest in-  
demnity against  
a future at-  
tack.Disease some-  
times returns;but the exemp-  
tion sometimes  
perfect.Second in-  
fection.

\* Ob. Med., p. 121.

† Guthrie's Observations on the Plague, &amp;c. in Edin. Med. Comment., vol. viii. p. 348.

‡ Treatise, &amp;c. p. 190.

GEN. IV.  
SPEC. I.  
Anthraxia -  
pestis.

adds), I think second attacks are milder than the first, though Dr. Price informed me of his having seen a lad, who, under such an attack, died on the second day. Pugnet says, that reinfections, when they occurred, were most frequent in persons who had been mildly treated by the first attack; and that several of these had the disease very violently the second time, immediately after using the bed or blanket of persons who had died of it.\*

Looking at the general tenor of the evidence on the point before us, it may be concluded, that a second infection is not a common event, at least during the same epidemic. In above 120 pestilential cases recorded by Diemerbroeck, there are only two, in which the patients had been infected twice during the same season.†

Thucydides, in his account of the plague at Athens, mentions, "that those who recovered had much compassion on those who were dying, and those who lay sick, as having known the misery themselves, and *were now in a secure condition, for it never seized the same person twice*, so as to be fatal." This confidence of the convalescents in their security (which is not usual in cases of the true plague when epidemic), is sometimes regarded as a confirmation of the suspicion, that the plague of Athens was the small-pox; against which inference, however, our author has zealously adduced every reason that it is possible to urge.]

Inoculation  
sufficiently  
efficacious, but  
cannot be re-  
lied on for a  
salutary result.  
Case in exem-  
plification.

Of the efficacy of inoculation from the virus of a bubo, there can be no question, and we have hence a sufficient proof of the specific character of the eruption; but it is not always a successful efficacy; and even where it is so, as the extent of the immunity is not sufficiently ascertained, inoculation for the plague is by no means to be recommended. We are told by Sir John Webb of a bold experimenter, in the person of a young physician and hospital surgeon attached to the British army at Rosetta in 1802; who, to determine the question whether the bubonous virus of the plague be or be not a specific and propagable poison, inoculated himself at El-Hamed, on January 3d, twice by friction from the matter of a bubo, and once, on the ensuing day, by incision. He was attacked with rigor and other symptoms of fever on the evening of the 6th of the same month, which proved to be the plague, became delirious on the 8th, and continued in this state till the evening of the 9th, when he expired.‡

I gladly avail myself of this authentic narrative of the Director General of the Ordnance Medical Department, in confirmation of the general statement here offered; and as containing, if a feeling of high esteem and friendship have not unduly biassed my judgment, one of the most valuable documents we possess on the subject; particularly in respect to the best practical means of opposing the influence of this desolating scourge upon a large scale.

Plague in the  
British army  
of Egypt;  
from Sir J.  
Webb's nar-  
rative.

Sir John Webb's narrative embraces the history and progress of the plague, as it appeared in the British army employed in the conquest of Egypt in the years 1801, 1802, and 1803, during the whole of which time he was present, and actively engaged in arresting its course: and it justifies us in drawing the following conclusions:—Firstly, that the disease is specifically contagious. Secondly,

\* Bancroft on Yellow Fever, &c. p. 599.

† De Peste, lib. iv. hist. 37. et 45.

‡ Med. Trans., vol. vi. art. viii.



that the atmosphere of contagion is very limited; and that hence it is by no means difficult to avoid being infected. Thirdly, that the disease makes its attacks with very different degrees of malignity, at different seasons of the year, and on different constitutions. And, fourthly, that those who reside in a place in which the plague exists, and have been gradually inured to the influence of the pestilential miasm, are less disposed to be affected by it than those who are fresh to its poison; and, as in the case of the jail-fever, may carry about them, in their clothes, effluvium enough to infect those who come within its atmosphere, while they themselves remain in a state of health.

The first position is sufficiently proved, not only by the test of inoculation just adverted to, but by numberless other facts; of which one of the most forcible is the following. A lieutenant of the 10th regiment of foot, residing in Alexandria, was attacked with the disease, and conveyed within the boundary of the quarantine. A rent having been made in a musquito curtain, it was taken, without his knowledge, by John Lee, a private, and servant to the lieutenant, who prevailed on the sentinel to let him pass, in direct violation of orders, to another private of the same regiment, of the name of William Bower, to be repaired; after which, Lee immediately carried it home, and, at his own request, accompanied his master into the pest-hospital, and attended him till he recovered. On the fourteenth day after this visit of Lee to Bower, the latter was taken ill with very suspicious symptoms, which, on the idea that it was an attack of plague, could be accounted for by no one till the application to repair the musquito curtain was recollected by the patient. The suspicions were confirmed on next morning, and in the evening, he died.

So long, however, as the line of separation was faithfully maintained, and the sound and the diseased were thus kept distinct, there was scarcely an instance in which the disease broke out among the former. I say scarcely an instance, because an anomalous case or two occurred occasionally. But such was the judgment and the vigilance exerted from first to last, that the Board of Health were able to trace almost every instance of fever to the source from which it was derived, notwithstanding the difficulty of maintaining a rigid and permanent prohibition of all communication whatever. And hence it is most probable, that the few exceptions to the general fact proceeded from a disobedience of orders, which the Board were not able to detect.

In general, Sir John Webb observes, that the course of the disease is nearly the same every year, and equally varies in different seasons of the year. In Egypt it commences in November, at which time it rages with its most deadly malignity, "and those who are affected by it sink into the grave almost without complaint." It continues its ravages with little abatement through the winter and the earlier part of the spring, when, as the weather becomes warmer by the approach of summer, its attacks are less frequent, its symptoms much milder, and it subsides into a manageable malady; still, however, retaining the characteristic test of glandular affection: and, on the 24th of June, the Turkish government announces to the public its supposed cessation by a

GEN. IV.  
SPEC. I.  
Anthraxia  
pestis.

Specifically  
contagious.

Atmosphere of  
contagion very  
limited.

Disease ex-  
hibits different  
degrees of  
malignity in  
different sea-  
sons of the  
year.

## GEN. IV.

## SPEC. I.

Anthraxia  
pestis.

Whether the  
miasm be ever  
entirely de-  
stroyed.

Nearly inert  
upon those  
long exposed to  
its action.

Sudden disap-  
pearance and  
occasional in-  
ertness of  
plague.

discharge of cannon; the atmospheric temperature being now acquired, in which the matter of plague ceases to operate.

Sir John, however, with great judgment, entertains doubts of its entire cessation, even then or at any time; and brings a proof or two of its existence during the period of official emancipation. In few words, he conceives the plague to exist in Egypt as the small-pox exists in England; only, from a greater regularity in the atmospheric changes of the country, evincing a greater regularity of epidemic flux and reflux, operated upon at the same time by contingencies often difficult to be developed; and hence equally varying in violence and extent.

That the miasm of plague, like that of typhus, is sometimes inert upon those habituated to its influence, is obvious from the following fact. "When our pest establishment at the camp was broken up, I discovered that the Arab servants who had been employed in it had secreted a great part of the clothing of the men who had died of the plague; some of which they wore with great satisfaction and *perfect impunity*." I have noticed this effect of habit in the preceding view of the plague at Mogadore: and to the same cause Sir John Webb ascribes it that the Chasseurs Britanniques, on their first arrival at Alexandria from Trieste, suffered far more severely from the disease, than the troops that had been stationed there for some months.\*

[Dr. L. Frank † has published several striking examples of the sudden disappearance and occasional inertness of plague contagion. The French army arrived at Cairo in 1798, only thirty days after the cessation of a severe plague; and though, in the hospitals, the beds, clothes, &c. of the Mamelukes were made use of, not a single case of plague occurred during that year. Upon this subject, as Dr. Winterbottom has noticed, Dr. Wolmar informs us, that about the summer solstice the south winds and sirocco, which had prevailed during the time of the plague, ceased, and were succeeded by north and north-east winds. A heavy dew fell every night, and the disease disappeared. The Europeans, many Christian merchants, and the Copts, now opened again their enclosures, and many days were passed merely in visiting. The Turks, also, visited to congratulate each other, and to renew their commercial ties. The Europeans and native Christians paid visits of condolence to the Turks in their houses; on which occasion they seated themselves, without dread, upon sofas covered with cotton, which, but a few days before, would have infallibly communicated to them the plague; though, at this time, such an occurrence was not heard of—a sufficient proof how great the influence of the atmosphere is over this disease.‡ Moreover, soon after the battle of the pyramids, Buonaparte and his staff occupied the quarters of Murad Bey; in which, a short time previously, sixty men had

\* Compare Dr. Patrick Russell's Treatise on the Plague, book i. chap. iv. (Aleppo) p. 19. 4to. 1791.

† De Peste, Dysenteria, et Ophthalmia Ægyptiaca. Vindob. 1820.

‡ Enrico di Wolmar, Abhandl-ueber die Pest; Berlin, 1827. This work, according to Dr. Winterbottom, is extremely interesting, and contains the author's remarks on the plague, made during four epidemics, which occurred in a residence of fourteen years at Cairo and Constantinople. See Edin. Med. Journ., vol. xxx. p. 61. — Ed.

died of plague, yet none of the French suffered from contagion. Pignet also informs us, that Buonaparte, in order to lessen the fears of the soldiers, used to touch bodies infected with plague. Upon this subject, Desgenettes more particularly says:—"Se trouvant (le général-en-chef) dans une chambre étroite et très encombrée, il aida à soulever le cadavre hideux d'un soldat, dont les habits en lambeaux étoient souillés par l'ouverture d'un bubon abscedé."\* ]

GEN. IV.  
SPEC. I.  
Anthraxia  
pestis.

How slightly the disease makes its assault upon some constitutions, may be inferred from the case of one of the sailors of the Major transport, who was attacked towards the end of March with an inguinal bubo, but was otherwise *in perfect health*. "The man," says Sir John Webb, "declared he had had it three days, and attributed it to cold. I was, however, satisfied, after a careful inquiry into his state, and an examination of his leg and thigh of the same side, that it was an effect of pestilential contagion, but in its mildest form. He was, therefore, placed in a separate tent, and a gentle aperient was administered, which was all the medicines he required. On the 2d of April, I found the swelling had begun to diminish, which it continued to do until it entirely disappeared."†

Attack some-  
times peculiarly  
slight.

The following description is of a different character. It is written with a touching simplicity that does credit to the author's heart, and will not be read without feeling by the most torpid. "As I approached the beach to examine them (the sick and suspected of the Major transport), the first object that presented itself was a young woman supported in a chair (Francisca Kennis), mourning under oppressive disease. She stared wildly about, quite insensible to every object around her, and there was a muddy glistening in her eyes, which I had seen described, but had never before observed. Her husband stood over her in the deepest distress, and held a lovely infant to her breast, who tranquilly sucked the poison that soon afterwards destroyed him. I feared, at first, that force would have been necessary to separate the father from his wife and child, but he at length yielded to entreaty, and was removed from the infection, though too late to save his life. She was conveyed to the pest-hospital, where she soon expired; and the child was confided to an Arab, who fed and watched over it with the greatest care. On the 28th of March, the fifteenth day after the separation took place, the infant was attacked with plague, and languished until the 14th of April, when death terminated its sufferings."‡

Interesting  
case of a more  
fatal kind.

Upon an average, from a table of the general return of the loss sustained by the British army from the plague, during the conquest and evacuation of Egypt, from the 8th of March, 1801, to the 8th of March, 1803, comprising just two years, it appears that the whole number

Average of the  
loss sustained  
under the re-  
gulations  
adopted.

\* Hist. Méd. de l'Armée d'Orient, p. 49.; and Winterbottom, in Edin. Med. Journ., vol. xxx. p. 331.

† Where buboes or carbuncles constitute the main symptoms, the patients are sometimes able to walk about and follow their usual employments, unless prevented by the degree of inflammation in the groin. Amongst the French soldiers, whom Buonaparte led into Syria, several, while ill of plague, were able to march a considerable time. (See Foderé, in Dict. des Sciences Méd., vol. xli. p. 77.) Similar facts are recorded by Diemerbroeck. — Ed.

‡ Loc. citat. p. 148.



GEN. IV.  
SPEC. I.  
Anthraxia  
pestis.

of sick was 660 : — of whom 361 died, and 299 were discharged cured : making the deaths rather more than half the number attacked. And further, that of the above 660, 612 were seized between March 8th, 1801, and June 30th, 1802, being nearly sixteen months ; and only 48 between July 1st, 1802, and March 8th, 1803, including the remainder of the time : a result, which reflects a very high degree of credit on the means resorted to on the occasion, and on the vigilance and activity with which they were carried into execution : 361 being the entire loss sustained from this fatal scourge operating through a period of two years : whilst in the French army in the same quarter, as we learn from M. Desgenettes, not more than one in three of those that suffered were fortunate enough to recover ; and, according to Dr. L. Frank, not more than one in five.

Hence plague evinces discrepancies in all parts of the world : but still preserves an identity of character.

Such is the history of plague, as it has shown itself in different ages and parts of the world, collected from the writings of unimpeachable eye-witnesses of its progress. In the midst of many discrepancies, it exhibits a sufficient identity of character ; and I have dwelt upon it the more largely, because, from the time of Dr. Cullen to the present day, its discrepancies have been chiefly attended to. And hence, while some writers of respectability have attempted to divest it of one, and others of another of its peculiar and most striking attributes, as that of contagion\*, or that of atmospheric influence†, some, and especially Professor Frank‡, have been equally inclined to sweep the whole away at once, and to reduce it to a mere modification of typhus, or some other fever of great malignity§ ; on which account, in Swediaur's Nosology, it is placed next to typhus in the class of continued fevers, instead of in that of exanthems ; and is distinguished by the name of loimopyra. ||

Swediaur's arrangement.

General pathology deducible from the above narratives.

Under the occasional influence of concomitants.

Hence varied in the nature of its fever.

From its history, then, let us endeavour to collect its pathology, or the laws by which it is governed, and which connect it with, or separate it from, other exanthems.

In the first place, it is obvious, that the plague, like many other febrile eruptions, is under the occasional influence of various concomitant circumstances that give a considerable diversity to many of its features. Its proper fever is an acute typhus ; but even this, by the constitution of the individual, or the peculiar state of the atmosphere, sometimes changes to a remittent, and even to an inflammatory type. So the measles and small-pox, whose proper fever is a cauma, sometimes change, as we have already seen, into a typhus or synchus. The final end of the fever in plague, as in

\* Læssis, Recherches sur les véritables Causes des Maladies Epidémiques, &c. 8vo. Paris, 1819. — Lange, Rudimenta doctrinæ de peste. — Magirus, Von der Pest. — Maclean, Results of an Investigation respecting epidemic and pestilential Diseases, including Researches in the Levant concerning the Plague.

† Sir Brooke Faulkner. — Tully, Hist. of Plague in the Islands of Malta, Goza, Corfu, &c. 8vo. 1821.

‡ J. P. Frank, De Cur. Morb. Hom. Epit., tom. i. p. 136. 8vo. Mannh. 1792.

§ Dr. W. Heberden, Observations on the Increase and Decrease of different Diseases, particularly the Plague. 8vo. 1801. — Dr. Hancock, Researches into the Laws and Phenomena of Pestilence, &c. 8vo. 1821. Dr. L. Frank, De Peste, Dysenteria, &c. 8vo. Vienn. 1822.

|| Nov. Nos. Med. Syst., i. 23.

other exanthems, is to restore the body to health by throwing the morbid ferment to the surface in a specific way. And, as in other exanthems also, a very small degree of fever is requisite for this purpose. And hence we find, that, wherever the disease runs through its progress kindly, the fever is slight in degree and short in continuance; and the specific eruption shows itself in its perfect character. Dr. Frank the younger tells us of a patient, who even danced and was merry at the very time when he had a bubo forming in the right axilla.\* In the small-pox, we sometimes find scarcely any eruption, and very little disturbance of the system; and the same benign disposition is occasionally found to attend the plague; for the soldier who is struck while in the ranks with a sudden shock, or *m' drop*, as the Arabians call it, and is taken to the hospital on one day, has, in a few instances, by proper treatment, passed through the febrile assault in three or four hours, and resumed his station the day after†: the disease, in such cases, evincing the same rapidity of attack and recovery, which we have already noticed in that tremendous and fatal scourge, the spasmodic cholera of India.

Next the proper eruption of plague is that of buboes; and where these alone arise, and in their proper period, the disease is not accompanied with much danger. They are always a favourable sign, and seem to afford the longest indemnity against future attacks. When the fever is more considerable, carbuncles, the *jimmurat* (جمرات) of the Arabians, are thrown out at the same time over different parts of the body: and there is in this case always great debility; which is probably the cause of their appearance, and a considerable degree of danger. And, if the fever run still higher, the danger will be proportionably increased, the proper eruption of buboes may perhaps be suppressed, and carbuncles alone be found, highly malignant, and secreting a most acrid and corrosive ichor, which, as it oozes and spreads about, occasionally forms extensive trails of painful and distressing sores.

But the fever is often still more acute, and especially, for a reason we shall presently notice, when the disease first appears among a people; and the danger may be imminent from the first shock. The typhous symptoms are here of the most malignant nature: there is a sudden and almost utter exhaustion of sensorial power without the smallest means of recruit: all the larger viscera are disturbed in their functions; the head, the heart, the lungs, the stomach, and the liver: some overwhelmed with congestion, others sinking and powerless, as though the morbid virus were translated from the surface to themselves; the only active principle throughout the entire system being that of fever itself, which increases with the increase of the general mischief, and, like a house on fire, gathers fuel from the downfall of the fabric. All the symptoms of putrefaction make an early appearance, and appear at the same time under these circumstances: the animal spirits fail and are despondent; the respiration is anxious and feeble; the stomach faint and sinking, or the brain comatose; purple stigmata and vibices are scattered over the body, and the patient is destroyed by the incur-

GEN. IV.

SPEC. I.

Anthraxia  
pestis.

A small degree  
of fever only  
sufficient to  
perfect the  
specific  
eruption.

Exemplified.

The proper and  
salutary erup-  
tion buboes.  
Only accom-  
panied by car-  
buncles when  
the fever is  
higher.

When very  
severe, buboes  
superseded by  
symptoms of  
malignant  
typhus.

\* De Peste, Dysenteria, &c. 8vo. Vienn.

† Edin. Med. Com., vol. iii. p. 352.

GEN. IV.

SPEC. I.

Anthraxia  
pestis.Primary source  
of plague un-  
certain :  
but of early  
date ;and known to  
the Jews from  
their captivity  
in Egypt.Dependent for  
an epidemic  
spread upon  
the common  
auxiliaries of  
putrefaction.Whether ever  
ingenerate  
doubtful.Law of febrile  
miasm appli-  
cable to exan-  
thems,and particularly  
to plague :  
on this account,  
little sphere of  
infection limit-  
ed in pure air ;

sion of the eruptive fever, as often happens in the small-pox, before the specific tokens have time to show themselves.

Of the primary source of plague we are in as much uncertainty as in respect to that of any other exanthem : it appears, however, to have a just claim to a higher antiquity than any of them ; for we have already seen that it was known in an early era to the Greeks, and that histories of it, as it has shown itself in different ages and countries, have descended in a regular stream of Greek, Arabic, Roman, and neoteric writers down to our own day. We might, indeed, if it were necessary, ascend to a far remoter period, and prove its existence in the earliest ages of the Jewish history, for it is very frequently referred to in the Pentateuch under the name of DEBER (דֵּבֶר \*), and is more particularly described in the prophetic writings as DEBER MIZRAIM (דֵּבֶר מִצְרַיִם or דֵּבֶר מִצְרַיִם †), the PLAGUE OF EGYPT, THE PLAGUE PROCEEDING FROM EGYPT ; thus pointedly adverting to what was equally regarded as its indigenous soil by the Greeks ‡ and Barbarians as well as by the Jews ; while the carbuncular variety is also peculiarly distinguished and characterised by the name of Shechin perceh (פֶּרַח שְׁחִין §) “ BURNING CARBUNCLE,” and Shechin Mizraim (שְׁחִין מִצְרַיִם ||) CARBUNCLE OF EGYPT. That, like other exanthems, it consists in, and is propagable by, a specific virus is unquestionable ; for we have already seen that it has often been put to the test of inoculation ; and, like most other exanthems also, it appears to be dependent for an extensive spread upon the same accessories as give rise to febrile miasm or contagion, and which, as before noticed, are, for the most part, the common auxiliaries of putrefaction. ¶ Whether any combination of these be capable of originating it of themselves, either without or within the human body, or whether it be only propagable by a stream of hereditary descent from primary matter communicated from place to place, is a problem to the present hour, though it is probable that the principle which in this respect governs most of the other exanthems, as measles, small-pox, and scarlet fever, governs the miasm of plague also : for all of them, while derivable by communication with the affected, seem, at times, to have assumed the form of epidemics.

In deducing the more obvious laws that regulate febrile miasm, I observed, at some length, that, whenever originating from the human body itself, this miasm does not seem to be very volatile, and is soon dissolved or decomposed in an atmosphere of pure air \*\*: and we have since had occasion to apply the same remark to the specific miasms of all the preceding exanthems. I have now to observe that it applies especially to that of plague, whose sphere of infection in pure air seems to be more limited than any of the rest ; on which account, indeed, it has been held by many who have practised in the field of this disease to be communicable by contact alone. Such, in truth, seems to be the surest way of communication, and may, in all common cases, be regarded as a way altogether irresistible : but it is not the only way. In the

\* Exod., v. 3. et alibi.

† Amos, iv. 10.

‡ See especially Lucr. vi. 1139., who quotes from Thucydides.

§ Exod., ix. 9.

¶ See vol. i. p. 574. et seq.

|| Deut., xxviii. 27.

\*\* Vol. i. p. 586.



pure and healthy air of Malta, during the visitation of the plague in 1813, it was almost the only mode of transmission; and hence the readiness with which it was subdued by the rigid line of quarantine, which was so wisely proposed by the medical officers, and enforced by Sir Thomas Maitland. But several of the most intelligent residents on the spot, and even Mr. Tully himself, who, in his work on the subject, has held up contagion as the sole mean of propagation, have admitted to me, in conversation, that the disease might be received by the breath of the infected, without contact, upon a very close intercourse. Sir B. Faulkner's opinion upon this point is in perfect union with Mr. Tully's: "It is communicated," says he, "only by contact or close association with the person or thing infected."\* And, in consequence, they admit that the air, even in its purest state, may become a vehicle of communication, though to a very short distance, and probably for a short period after being impregnated; since, as already observed, the miasm of plague dissolves in pure air with great rapidity.†

When, however, the atmosphere is stagnant, or already loaded with foul effluvia of any other kind, especially such as proceed from the filth of close or crowded rooms, or the putrescent decomposition of animal or vegetable substances, no modification of febrile miasm, as we have had reason to state antecedently, dissolves readily; and consequently the seeds of such disease may continue floating for a considerable period of time, and be driven by currents to some distance in full possession of their specific mischief; and hence, even a sporadic fever may be converted into an epidemic.

It is in this way that plague appears in many cases to have extended itself; for it would be unjust to the character and good sense of a cloud of intelligent witnesses, to deny that this disease sometimes also assumes the form of an epidemic. But I believe it would be found an universal fact, that it has never exhibited itself in this form, except when aided by the above auxiliaries. Thus much is certain, that it has always raged with most violence, and to the greatest extent, in cities and districts where the atmosphere has been least pure, the human frame most debilitated, and the tendencies to putrefaction strongest and most multiplied, as in times of famine or any other general distress, and in the close and squalid quarters of the poor of every city into which it has found an entrance, if it have not even originated there.

This fact, indeed, is so common, that while many writers have contended that plague can only be propagated by actual contact, others, of equal authority, have maintained that the disease is altogether an epidemic, as directly dependent upon the state and constitution of the air as any epidemic whatever, and that to attempt to cure it by a mere interdict of communication between individual and individual is equally weak and wicked. The view, now taken of the disease, is calculated to reconcile these conflicting opinions, and to bring into a state of amity the most sturdy adversaries in

GEN. IV.  
SPEC. I.  
*Amhracia*  
*pestis.*

but possessing  
a wide range in  
air loaded with  
other contamin-  
ations,

and hence at  
times epidemic.

\* Minutes of Evidence before the Select Committee of the House of Commons.

† Whether the plague can be received by means of respiration, must yet be regarded as an unsettled point. The celebrated Omadei observes: "A tutti è noto che il valoroso Valli, ricco d'esperienza su di questa materia, sosteneva non essere contagiosa l'aere respirata dagli appestati." *Peste di Smirne del 1784.*

— Ed.

GEN. IV.  
SPEC. I.  
Anthraxia  
pestitis.

Hence plague  
is regulated by  
the general  
laws of other  
exanthems,

but evinces  
some peculiar  
properties.

More rapidly  
communicable  
by the pores of  
the skin,

and hence often  
incommunica-  
ble where this  
channel is  
obstructed.

Hence the  
apparent benefit  
of oil applied  
to the skin.

Exemplified.

the contest.\* In enforcing the line of quarantine at Malta†, Sir Brooke Faulkner most wisely took especial care to enforce at the same time a rigid attention to purification of every kind; and I shrewdly suspect that, without the latter, his cordon would have been but of little avail.

Thus far, the ordinary course of plague does not essentially vary from that of most of the exanthems already considered. The general laws of any one are those of the whole: they are all deflected, and exhibit some variety of features by particular circumstances; but each, to an attentive eye, gives sufficient proofs of identity in the midst of every modification, and is specifically distinguished from the rest.

There are two or three properties, however, which, if not peculiar to the plague, are indented upon it far more strikingly, than upon any other disease of the same order, or perhaps of any order whatever: and we will next proceed to a brief examination of them.

The ordinary mode of infection, on exposure to an exanthematous patient, is by inhalation or deglutition; probably by the former; for variolous contagion has been swallowed in the way of experiment without producing any influence. How far any other virus, besides that of the plague, is receivable by the pores of a sound skin, is to this hour a matter of doubt. In the case of plague, however, there ought not to exist the shadow of a doubt; for, though the miasm is probably communicable within the sphere of its activity, by the mouth or nostrils, direct contact or absorption by the skin forms the ordinary means of its conveyance. Upon this point, almost all the writers of authority, who have been professionally engaged in opposing its progress, are concurrent. And hence, again, whatever obstructs or corrugates the mouths of the cutaneous absorbents becomes a certain anti-loimic. Oil seems to do this most effectually; it was accounted "the sovereignest thing on earth" in the last pestilent ravage at Noya, where the physicians, inspectors, and commissaries uniformly wore oil-skin caps, mantles, masks, and gloves.‡ At Malta, it was in equal favour: and Mr. Tully has informed me, that there was no instance of an attendant on the infected having received the contagion so long as he was regular in thoroughly rubbing himself with oil, wearing a dress soaked in oil, or a covering of oil-skin. And to the same effect is the evidence of Sir Brooke Faulkner, physician to the forces at Malta in 1813, before the Select Committee of the House of Commons, June 14. 1819, who, in answer to the question, "How were the military attendants preserved?" replied, "With respect to the

\* The principal difficulty in the way of an unqualified admission of the contagious nature of the plague, is the complete and often speedy eradication of the disease, in a place where no particular means of purification have been employed for the removal or destruction of the contagion. "But," as Dr. Bateman observes, "this difficulty is not insurmountable, as might be illustrated by a reference to the progress of those contagious diseases which admit of no dispute, such as the small-pox and measles. For even these are only widely epidemic and severely fatal at particular seasons, when circumstances, that are not always cognizable, give a peculiar virulence to the contagion, or a predisposition to the human constitution to receive its influence." (Rees's Cyclop., art. PLAGUE.)

† Treatise on the Plague, by Sir Arthur Brooke Faulkner, M.D. 8vo. 1820.

‡ Giornale di tutti Atti, Discussioni e Determinazione della Sopra-intendenza Generale, &c. Napoli, 1816.

pest-hospital in which I attended, they were, in my opinion, preserved by wearing a dress of vileil silk, which prevented the possibility of any contact of infected matter with the skin, and probably, also, by its promoting free and copious perspiration, and, in consequence, preventing absorption." \*

To the same effect it has been asserted by Mr. Bahlwin of Cairo, that, among upwards of a million of inhabitants carried off by the plague in Upper and Lower Egypt during the space of four years, not a single dealer in oil, so far as he could learn, had fallen a sacrifice to it. † A similar remark is made by Mr. Jackson, respecting the crolics or labourers in oil-warehouses during the Barbary plague. In that of London in 1665, it is specially observed by Baynard, and most of the writers, that the trades chiefly exempted were those of oilmen, fishmongers, tanners, barge-men, and watermen: the first three evidently protected by the greasy viscosity that covered the hands and dress generally; and the last two by living separate from the scene of contamination, as though cut off by a quarantine. While, on the contrary, it has been quite as generally remarked, that the descriptions of persons most exposed to infection, are bakers, cooks, and smiths, the pores of whose skin are kept in a state of perpetual irritation and relaxation from their respective employments.

How far an habitual exposure to the miasms of other exanthems torpifies the skin to their action, or whatever other organ affords them an inlet: or how far the system at large may be thus torpified, has not been determined with any degree of satisfaction. That stimulants of most kinds have a tendency to produce such torpitude and inirritability is unquestionable; and that the miasm of gaol fever has occasionally done it, will not soon be forgotten in the courts of judicature of our own country. It is hence probable, that the effluvia of exanthems, in general, is possessed of a like power. But in the case of plague, the fact seems to be unequivocally and most strikingly established; for we find in every country, after it has raged for a certain number of weeks or months, that the disease is both caught more sparingly, and exercises far less violence, at least upon those that have been exposed to its aura; for upon new comers, or strangers, it still retains its virulence. The history of almost every plague may be taken in confirmation of this remark; but it is particularly established by numerous facts, already quoted from Sir John Webb and Mr. Jackson. It is highly probable, that if the corps of troops which, after the mortality had subsided at Magadore, arrived there from the city of Terodant in the province of Suse, *where the plague had been raging*, and had subsided, had remained at Terodant, it would have continued to escape. But it lost its immunity by an exchange of contaminated for pure air in the course of its journey, and the organs, having acquired their wonted irritability and susceptibility, were as open to infection as those of fresh persons.

The acquisition, then, of a growing torpitude to the action of the pestilential effluvia beneath a habit of exposure to its influence, seems unquestionable; and puts us in possession of one mean of

GEN. IV.  
SPEC. I.  
Anthraxia  
pestis.

Prolonged exposure to the miasm of plague torpifies the irritability of the absorbents to its action more than in other exanthems.

\* Copy of Minutes, &c. As also Sir A. B. Faulkner's Treatise on the Plague, &c. Appendix, p. 16. 8vo. 1820.

† Travels, &c. chap. xvii.



## GEN. IV.

## SPEC. I.

Anthraxia  
pestis.

As rendered  
more active by  
a peculiar state  
of the atmo-  
sphere, rendered  
equally inert by  
some other  
state.

The nature of  
this peculiar  
state unknown.

## Exemplified.

the progressive subsidence of this tremendous scourge, after having occupied a town or district for a certain period of time.

But, there is an additional cause of its cessation, which is equally striking, and forms another of the peculiar features of this complaint. As a particular state of the atmosphere, such, for instance, as its being saturated with foreign corpuseles from decomposing animal filth, renders it a bad solvent of pestilential miasm, and consequently a ready vehicle for the spread of the disease, a particular state of the atmosphere of some other kind seems to possess a power of dissolving the effluvium instantaneously, in many cases, and of diluting or disarming its virulence in others. Of the immediate nature of this atmospheric change, we are in a considerable degree of ignorance, but of the general fact there is not a quarter of the world that does not furnish us with examples: so that, all of a sudden, the scourge, that has hitherto been sweeping off one or two thousand inhabitants of a city every day, either totally vanishes, or drops its mortality, and only continues in a form so mild as to excite no alarm. Dr. Hodges notices this sudden change very particularly in the plague of London. "In the beginning of November," says he, "people grew more healthy, and many came into the city without fear; so that in December they crowded back as thick as they fled: and such confidence was now inspired, that many went into the beds, where persons had died, before they were cold, or cleansed from the stench of the diseased; *for the nature of the disorder was changed.*" \* "Even the physicians themselves," says another eye-witness of the same pestilence, "were surprised: wherever they visited, they found their patients better. Either they had sweated kindly, or the tumours were broken, or the carbuncles went down, and the inflammation round them changed colour, or the fever was gone, or the violent headache assuaged, or some good symptom was in the case: so that, in a few days, whole families that expected death every hour were revived and healed, and none died at all out of them." †

Alpinus speaks in the same manner of the sudden decline of mortality in the plague of Egypt: "In the month of June," says he, "to whatever degree pestilence may be raging in Egypt, as soon as the sun enters Cancer, it ceases entirely." And Dr. Russell confirms this remark as follows: — "It is agreed on all hands, that about the 24th of June, at Cairo, there is a remarkable sudden alteration in the contagious property of the plague, as well as in the malignity of the disease itself, to whatever cause it is to be ascribed: and Alpinus's remark, that at the same time it ceases, the furniture in infected houses suddenly loses all power of communicating the disease to the inhabitants, so that health and tranquillity are at once restored, agrees in some measure with the general experience of other places in Turkey, where, it is well known, houses or goods undergo little or no purification." ‡ Mr. Bruce speaks to the same effect: — "The Turks and Moors, immediately after this day, expose in the market-places the clothes of the many thousands that have died of the plague during its late continuance; and though these consist of fur, cotton, silk, and

\* Loimol, p. 27.

† Journal by H. F., p. 250.

‡ On the Plague, b. III. ch. v.

woollen-cloths, which are stuffs the most retentive of the infection, no accident happens to those who wear them, from their happy confidence." And we are hence able to enter more fully into the meaning of a passage already quoted from Sir John Webb, in which he tells us, that, on the approach of summer, the plague subsides into a manageable malady, and that, on the 24th of June, the Turkish government announces to the public its supposed cessation by a discharge of cannon.

Unless, therefore, we withhold, most unjustly, all belief in this accumulation of unimpeachable evidence, it seems impossible not to admit that the state, or, to speak more definitely, the temperature, of the atmosphere is connected with the decline of the plague, and consequently with its previous progress; and that, as already observed, it cannot maintain its energy, nor perhaps exist under an atmospheric heat of  $60^{\circ}$  \*, nor above that of  $80^{\circ}$ ; while its dependence upon a specific miasm seems equally clear from its occasionally commencing in the healthiest, as well as in unhealthy seasons; though most frequently, and most fatally, in the latter. In the plague of London, as we have already seen, the disease followed a malignant epidemic; in that of Athens, the preceding year had been so peculiarly healthy, that mankind seemed to have acquired an exemption from complaints of every kind. In that of Egypt, it makes a regular return, whatever be the constitution of the season. Dr. L. Frank. in one place, ascribes the diminution of the fatal power of the plague to a periodical return of the north wind: but he afterwards observes, that winds, at times, or even moisture, seem to have little influence upon it. That the change in its degree of activity is connected with the change which takes place in the temperature of the atmosphere, is unquestionable; and it is highly probable, that it is dependent upon this alone. That below  $60^{\circ}$ , or in the cold of the winter months, the miasmatic corpuseles lose their volatility, and gradually become decomposed; while above  $80^{\circ}$ , as in the summer months of Egypt and Arabia, they become almost immediately dissolved; so that clothes and bedding, however loaded with them, are rendered harmless. And hence the reason, why it has never been known either in the tropical or arctic regions.

Respecting the proper plan to be pursued, there is still some controversy. Early, copious, and even repeated venesection was at one time, and by very high authorities, recommended in this disease, and especially by Sydenham at the commencement of the plague of London, in 1665 and 1666, before the appearance of any eruption. Like Dr. Rush, in North America, respecting the yellow fever, he was stimulated by the bold determination of quelling this formidable enemy in its very onset, and before it should have made a fatal breach in the constitution. This practice, however, has been far less successful, and therefore less persevered in, with

GEN. IV.  
SPEC. I.  
Anthraxia  
pestis.

Hence influenced in its rise, progress, and decline, by the state of the atmosphere; but essentially dependent upon specific miasm.

Medical  
treatment.  
Venesection  
whether  
advisable.

\* The only fact with which the editor is acquainted, in opposition to this doctrine, is that of Mindererus, who was an eye-witness of the plague of Ismail, during the most severe winter ever remembered there. (Account of the Turkish Empire.) Dr. Winterbottom, in noticing the differences between the plague and yellow fever, says, that the former can maintain itself in excessive degrees of cold, while, on the contrary, a changeable temperature, inclining to cold, is destructive of yellow fever. See Edin. Med. Journ., vol. xxx. p. 340.

## GEN. IV.

## SPEC. I.

Anthraxia  
pestis.Medical  
treatment.

regard to the plague, than with regard to the yellow remittent. Dr. Mergens says, he would never advise its being resorted to: and even Sydenham hesitated as he became more experienced. "But though," says he, "I approve, and have often experienced the utility of bleeding, yet, for several reasons, I prefer the dissipation of the pestilential ferment by sweat, because sweating does not in the same degree prostrate the patient's strength."\* Blood-letting and purgatives, Dr. L. Frank assures us, prove equally hurtful in the plague of Egypt. During the plague at Noya, the doctrines of Dr. Brown were in high vogue, and the disease was divided into sthenic and asthenic; free bleeding and large doses of calomel being prescribed for the former; and acids, opium, ether, and other stimulants for the latter. But, in general, the medical practice was here as confused and inconsistent as the precautionary means of the police were excellent and effective, so that Romani was right in affirming that, after all, their real alexipharmic was to be found in God alone.† Wherever there is great and threatening congestion in a large or vital organ, early bleeding should certainly be employed; and is, in such cases, wisely recommended by the elder Frank.‡ But the practice must form an exception to the general rule, and not the rule itself. In general, as Dr. Bancroft says, very bad effects have resulted from this evacuation.

Application of  
external cold.

The use of external cold by the application of sheets of pounded ice to the body generally, has been also tried, but with no satisfactory result. It has, indeed, been chiefly confined to Russia, under the vigilant eye of M. Samoilowitz. How far it might succeed in warmer climates is uncertain, but ablution with cold water offers a fairer promise. [According to Dr. Bancroft, however, the unsuccessful trials of the cold bath in Egypt afford no encouragement to repeat them.] A brisk emetic, given at the commencement of the attack, has often proved of the utmost advantage. M. Degio, to whom I have already adverted, affirms that he has seen men, suddenly cut down by the disease when on duty, as though shot by a musket-ball, so completely recovered by an emetic given instantly, as to be on duty again within twenty-four hours afterwards.§ If the nausea and bitter taste in the mouth be not removed by a first emetic, a second, and even a third are often prescribed; and, where the symptoms are urgent, at a distance of not more than four or five hours from each other. And this plan is found to produce far less exhaustion than that of purging, which the patient is often unable to support.

Great use of  
emetics.Warm  
sudorifics.

After evacuating the stomach, and hereby exciting a determination towards the skin, the cutaneous action is to be maintained by active and cordial sudorifics, which, indeed, constitute the ordinary plan of the present day. For cordials, there is the utmost necessity: the debility is, from the first, extreme and threatening, and the vascular action must be supported at all adventures. Even Sydenham, who at one time hesitated as to the use of them upon theory, in which he did not often indulge, was obliged to admit their beneficial effects, though he regarded the practice as hazard-

\* Loco citato.

† Ricordi sulla Peste, da F. Romani, M. D. Napoli, 1816.

‡ De Cur. Hom. Morb. Epit., tom. i. p. 136.

§ Substance of notes taken at the Russian army during the prevalence of the plague. See Edin. Med. Com., vol. viii. p. 352.



ous. With respect to sudorifics, the concurrent voice of all physicians in all countries is in their favour. Diaphoresis is, indeed, the evacuation that relieves most certainly and most effectually; and it should be maintained by warm, diluent, and supporting drinks. James's powder employed without cordials does not appear advisable. It was very largely administered at Moscow, but, according to Dr. Mergens, with no particular advantage. In many cases the warmer opiates, as the opiate confection, have been found serviceable, assisted with camphor and ammonia, and blisters repeated in succession.

As oils of all kinds, applied to the surface of the body, have been found a good preservative against the absorption of the contagious miasm, it has been also had recourse to, and employed in the same manner as an antidote when the disease is present, and particularly in the East, where the *zeit jagghy* (زيت يانجي), or olive oil, has been regarded almost as a specific.\* Mr. Baldwin affirms, that he made use of it in this form very extensively at Cairo, and with great success: and it is usually employed in Barbary and at Constantinople. The French physicians, however, do not seem to have relied much upon its virtue. M. Sotira suggests, that Mr. Baldwin's benevolence in the distribution of oil for this purpose was occasionally abused, and the cures by oil exaggerated and multiplied by those who wished to have oil gratis. Assilini, however, inclines to a belief that it may be useful: it is most pointedly recommended by Father Louis of Padua, director of the hospitals at Smyrna: and quite as strongly by Dr. Pauvini of Palermo, who had practised indeed at Malta, but whose work was reprinted during the plague at Noya, and gave a character to the medical practice pursued in that city.\* The application should be accompanied with a long-continued friction; and, when successful, is followed in about half an hour by a perspiration profuse and general, and which affords immediate relief. Sir Brooke Faulkner admits its sudorific power, but is by no means friendly to its use: believing that even by this very power it has often proved highly injurious. Yet he does not speak from much personal acquaintance with its effects; but tells us that "a gentleman who superintended the health of one of the districts of Valetta assured *him* that, although he had constant opportunities of seeing oil frictions used by those under his immediate orders, he was satisfied that it was not merely useless as a defence, but hurtful to the general health, by the debility which succeeded to the profuse perspirations which it occasioned. [Pugnet says, that oil frictions, so extensively employed by the French physicians in Egypt, were not only useless, but caused anxiety and disturbance to the sick; and that of fifteen patients to whom they were applied, under Dr. Carrie, one recovered with difficulty, and all the rest died: and that where they seemed to do good, the disease was always mild. With so much reason to doubt of their efficacy, there is a strong objection to their use, arising from the very great danger of communicating the disease to the person, by whose hands they may

## GEN. IV.

## SPEC. I.

Anthraxia  
pestis.

## Treatment.

Perspiration  
the natural  
means of relief:  
but excited by  
antimonials  
alone exhausts,  
and is rarely  
useful.

Warm opiates,  
camphor, and  
ammonia.

How far oil  
may be re-  
garded as an  
antidote.

\* *Chiara Dimostrazione de veri Preservativi della Peste e de Remedj, &c. del Sacerdote P. Pauvini, Dottore in Medicina, &c. Palermo, 1813.*

## GEN. IV.

## SPEC. I.

Anthraxia  
pestis.

Treatment.

be applied.\*] Sir Brooke, in the passage of his book above referred to, estimates its prophylactic virtue as low as its remedial†, and is thus far in a state of direct antagonism, not only with Mr. Tully, who was afterwards inspector of quarantine on the same station, but with himself at the time of delivering his evidence before the Select Committee of the House of Commons; an extract from which we have already quoted. Dr. L. Frank employed oil, according to his own statement, with great and decided success. In his hands, it proved a most salutary sudorific; and to sudorifics he principally trusted. He used it in the form of friction, six ounces at a time, and a single friction a day.

During remis-  
sions, bark and  
port wine.

In the remissions of the fever, the bark is used in great abundance, commonly intermixed with port, or other generous wines. During the fatal plague which depopulated the whole of Western Barbary in 1799, the Emperor Sidi Soliman is said to have had the disease twice, and in both cases to have derived his cure from a free use of the bark: in consequence of which, he was never afterwards without a large supply of it. When buboes or carbuncles appear, they are always to be promoted and matured by warm cataplasms.

Treatment of  
buboes.

[With respect to the management of buboes, although it may be right to promote their suppuration by emollient cataplasms, where a natural tendency to that issue is evident, it is fully ascertained, that there is no danger in favouring their dispersion by the usual means, when they show a disposition to recede. Dr. Bancroft says, "I know that the sudden retrocession of buboes, previous to suppuration, and whilst other symptoms indicating danger subsist unabated, is often followed by death. But, this mortality is not in such cases produced by any change in the bubo itself, or by the retention of any matter which ought to be discharged, but by such an extreme diminution of the living power, or other injurious effects of the disease, as is incompatible with the continuation of a suppurating process, and also with the patient's recovery; and, therefore, this retrocession is to be considered, not as the cause of death, but as an indication and consequence of that condition of the patient, from which death necessarily resulted; and, on the other hand, when these glandular swellings rise and suppurate favourably, they indicate such a state of the living power and of the system, as is likely to overcome the disease, without the supposed benefit of an evacuation of morbid poison by that suppuration. The same reasoning appears applicable to carbuncles, though in their gangrenous state, and, when not surrounded by concentric inflamed rings, they require hot stimulant applications, and afterwards such as will promote a suppuration, and a separation of the carbonaceous crust."‡ These observations are important, as connected with the theory, prognosis, and treatment of the disease.]

Principle on  
which their  
suppuration, or  
retrocession,  
influences the  
prognosis.

Preventives.

Camphor, smoking tobacco, fumigation with gum sandrae, and the vinegar of the Four Thieves, are still largely employed as preventives. But the contagion, as we have already observed, is not peculiarly active, and the best prophylactics are cleanliness, pure

\* See Bancroft on Yellow Fever, &c., p. 623.

† Treatise on the Plague, &c., pp. 231, 232.

‡ Bancroft on Yellow Fever, &c., p. 617.

air, freedom from actual contact, a liberal diet, and cheerful spirits. I may add, that vaccination has been repeatedly tried; but has answered no good purpose. Sir Brooke Faulkner, indeed, gives a striking example of its failure, for "in a numerous family," says he, "who had been recently vaccinated, the whole fell sacrifices to the prevailing contagion, with the exception of the parents, who had never undergone the operation." \*

[In relation to this part of the subject, the editor mentions with admiration the name of Valli, who, as Dr. Winterbottom observes, "appears to have been a man of a cultivated mind, and overflowing with ardour for his profession. Being an enthusiastic admirer of vaccine inoculation, and imagining that the prevalence of natural small-pox and plague was influenced by a kind of mutual repulsion between the two diseases, he flattered himself with having discovered a specific for the latter disease in the vaccine matter. To prove the truth of his opinion, he went to Constantinople, and shut himself up in a pest-house, from which he narrowly escaped with life. He made many experiments by inoculating with mixtures of small-pox, vaccine, and pestilential matters, which he promised to publish, but which it is feared are lost. Dr. Valli inoculated himself with impunity with a mixture of vaccine and plague matter. In consequence of these trials, an ointment was advertised for sale as a preventive of plague; but it is not clear that Dr. Valli had any concern in it, at least, not from sordid motives. But an apothecary at Constantinople was accused of preparing, as a specific for plague, an ointment, composed, it was pretended, of plague and vaccine matter. The apothecary was strangled, as a just reward for his knavery. Dr. Valli ultimately went to the Havanna to investigate yellow fever, the contagious nature of which he denied, where he died a few days after his landing, and where the Medical Society of that city have erected a monument to his memory. A republication of Valli's works on plague, now out of print, with a biographical sketch of the author, would, as Dr. Winterbottom says, be an interesting present to the medical world. †]

GEN. IV.  
SPEC. I.  
Anthraxia  
pestis.  
Treatment.

Valli's experiments.

\* Treatise on the Plague, p. 233.

† See Edin. Med. Journ., vol. xxx. p. 332.



## SPECIES II.

## ANTHRACIA RUBULA.

## YAWS.

TUMOURS NUMEROUS AND SUCCESSIVE; GRADUALLY INCREASING FROM SPECKS TO THE SIZE OF A RASPBERRY; ONE AT LENGTH GROWING LARGER THAN THE REST; CORE A FUNGOUS EXCRESCENCE: FEVER SLIGHT\*: OCCURRING ONLY ONCE DURING LIFE: CONTAGIOUS.

## GEN. IV.

## SPEC. II.

Origin of the specific name. Why called framboesia.

Meaning of the terms yaw and epian.

Thymiosis of Swediaur.

THE term RUBULA, by which this disease is distinguished in the present work, is derived from the Latin *rubus*, "a blackberry or raspberry," in French *framboise*, whence the common but barbarous name of *framboesia*, quite as objectionable as that of *scarlatina*; and which the author has thus attempted to exchange for an euphonous and strictly classical term, in perfect concordance with the ordinary law of diminutives, which seems to prevail through the general nomenclature of exanthematous diseases, as rubeola, variola, varicella. Perhaps morula, from morus, a mulberry, a diminutive used in an approximating sense by Plautus, might have been somewhat more appropriate, since the eruption seems to bear a nearer resemblance to small mulberries than to raspberries. But as this last plant has laid a foundation for the vernacular name both on the African and American coast, on the former of which it is called *yaw*, and on the latter *pian* or *epian*, both importing raspberry; and as the earliest writers have, upon this authority, denominated it *framboise* or *framboesia*, I have not felt myself at liberty to deviate from the original idea. Swediaur has denominated it *thymiosis*, but with less attention to the external character of the eruption. He arranges it, indeed, under the division of cachectic ulcers, and has made it synonymous with the synochus of the Greeks, as described by Celsus†; to which it has only a few casual resemblances, while in its essential signs it is widely different.‡

The disease, as it occurs in Africa and America, exhibits some diversity, and lays a foundation for two varieties, as follow:—

- |                                |   |
|--------------------------------|---|
| α Guineensis.<br>African Yaws. | Attacking infants and young persons chiefly; and subsiding as soon as the eruption appears. |
| β Americana.<br>American Yaws. | Depascent; and destroying progressively both muscles and bones.§                            |

\* It is alleged by Mr. David Mason, that fever, so far from being necessarily connected with yaws, seldom occurs, and perhaps never, except as an adventitious disorder. Hence he prefers the arrangement of yaws in the class tubera, as adopted by Sauvages, and not Dr. Good's classification of it with *Exanthematica*. See Edin. Med. and Surg. Journ., No. cvi. p. 54. — Ed.

† Lib. vi. cap. iii.

‡ Nov. Nosol. Meth. Syst., vol. ii. p. 180.

§ Mr. David Mason's observations, published in the Edin. Med. and Surgical Journal, No. cvi., he informs us, refer to the African variety of Dr. Good; but,

In the precursory remarks to the present genus, I have stated the reasons for introducing this species into the list of exanthems, or febrile eruptions; and the history of the disease will still further show, that it could not with propriety have been placed under any other division. It is singular, that we have no decided account of this malady among the early writers; nor, indeed, any account whatever till after the appearance of syphilis; whence, as several of its symptoms, and especially where the bones become affected, bear a resemblance to those of syphilis, yaws have been supposed by some writers to be a species of lues, and especially of that which in Scotland is denominated sibbens or sivens, of which we shall treat in the ensuing order: but the eruptive fever and consequent efflorescence, the indemnity from a second attack, as well as other symptoms, draw a sufficient line of distinction.\*

The FIRST VARIETY will often run through its course favourably without any medical assistance whatever; and is, indeed, often rendered worse by the injudicious interposition of it. This seems to be the primitive form, and that under which it chiefly shows itself in Guinea, and some other parts of Africa, where, as just observed, it is vernacularly called YAW, or MORBUS RUBULUS.

It commences, like the other exanthems, with the ordinary symptoms of fever, although they are usually more tardy in their progress. Hence the precursory symptoms are languor, debility, headach, loss of appetite, rigor, and pain in the back and loins, which continue for a few days, with evening exacerbations. To these succeeds the specific eruption: consisting of successive crops of papule, at first not larger than a pin's head, but increasing in size with every series till they acquire the magnitude of a raspberry or mulberry. The smaller papule become real pustules, and discharge an opaque whitish fluid when broken, and concrete into dense scabs or crusts. The larger are fungous excrescences, and, in their granular surface, as well as in their size and colour, bear a near resemblance to the fruit from which they derive their name. These sprouting tumours have but little sensibility, and suppurate very imperfectly: discharging rather a sordid ichor, than a matured pus. They originate in scattered groups over different parts of the body, but are chiefly found, like the eruption of plague, in the groins, parotid glands, axillæ, and about the arms and pudenda: though they often disfigure the neck and face. The colouring matter of the hair, wherever they are seated, is obstructed in its secretion, and, as in old age, the hairs themselves, from a brown or a black, become a dead white. Dr. Thomas, who has given a very accurate account of this variety, apparently from personal knowledge, observes that, "in general, the number and size of the pustules are proportioned to the degree of eruptive fever. When the febrile symptoms are slight, there are few pus-

GEN. IV.

SPEC. II.

Anthraxia  
rubula.No account of  
the disease in  
the early  
writers.Supposed by  
some to be a  
modification of  
syphilis: but  
distinguishable  
by diacritical  
marks.The mildest  
and probably  
the original  
form of the  
disease.

Diagnosis.

he thinks that there is no good foundation for the division into the African and American kinds. The disease, he believes, is of a uniform nature, the malignant and anomalous symptoms, sometimes presented by it, being the result of internal constitutional, or accidental external circumstances. — Ed.

\* Speaking of yaws, Mr. Mason observes: — "It has some resemblance to syphilis, being slow in its progress, and only communicable by contact; but its after-effects are not so destructive, and it leaves the constitution invulnerable to future infection." Edin. Med. and Surg. Journ., No. cvi. p. 54. — Ed.

GEN. IV.

SPEC. II.

α A. Rubula  
Guineensis.Duration of  
the eruption  
variable.

Master-yaw.

Tubba, or  
callosities in  
the soles of the  
feet.

Treatment.

tules; but they are mostly of a larger size, than when the complaint is more violent and extensive." \*

The duration of the eruption is uncertain, and seems to depend considerably upon the state of the habit, and its power of promoting their maturity. They sometimes acquire full perfection in four or five weeks, and sometimes demand two or three months. In their progress to this state, there is usually some one that appears larger and more prominent than the rest, and is called the master-yaw. It is, in truth, a broader and more sloughy fungus, and discharges a larger portion of erosive sanies, which, if not washed off as it issues, will spread widely, and sometimes work its way to an adjoining bone, and render it carious. When the tumours point from the soles of the feet, they cannot press through the thickness of the skin, and hence form imperfectly, and produce highly elevated calluses, which are called tubba or crab-yaws: and often very much impede the power of walking. As soon as the eruption has attained its height, the tumours, when the disease proceeds favourably, become covered with crusts or scabs, which fall off daily in whitish scales; and, in the course of a fortnight, the skin is left smooth and clean; the master-yaw alone remaining and demanding attention.

In attempting the cure of this disease, the first step should consist in separating the patient from his associates, to whom he will otherwise assuredly communicate it by contagion. He should then take freely of decoction of sarsaparilla or some other warm diluent. And it is highly probable, that the warm aperient bolus, composed chiefly of a scruple of sublimed sulphur and five grains of calomel, as recommended by an anonymous writer †, may be found serviceable, continued every night. [In a good practical paper on yaws, Loeffler recommends sarsaparilla; and, for the purpose of promoting the eruption, small doses of ipecacuan, camphor, warm baths, friction, and blisters.‡] The master-yaw must be attacked with escharotics; for it is to be destroyed in no other way.§ The callous tumours on the soles of the feet (termed crab-yaws) should be softened by warm water, or cataplasms of some gentle stimulant; and, when on the point of breaking, are best subdued by a slight application of the actual cautery. The diet should be nutritious and liberal, so as to support the strength during the progress of the disease. And, under this mode of treatment, it is rarely that a patient fails to do well. ||

\* Pract. of Phys., p. 643. edit. 1819.

† Edin. Med. Essays, vol. v. part II. art. LXXVI.

‡ Meckel's Neues Archiv. der Pract. Arzneykunde; Richter's Chir. Bibl., vol. xii. p. 340.; and Winterbottom's learned paper in Edin. Med. Journ., vol. xxx. p. 322.

§ Mr. Mason suspects, that the application of nitrate of silver to the mother-yaw, or that of inoculation, before the constitution is tainted, may speedily effect a cure, and prevent absorption of the poison. See Edin. Med. Journ., No. cvi. p. 65. — Ed.

|| The following is Mr. Mason's description of the crab-yaws: — "Like the other yaws, they seem to arise from the true skin; but, being confined during their growth by the hardened cuticle, its resistance, together with the pressure in walking, creates intolerable pain, and inability to move except in a singular and awkward way, whimsically fancied to resemble that of the movements of a crab, whence the origin of the term. As the tubercles enlarge, the upper covering gives way, and they appear above the surface in the shape of granular yaws.



Mercury was at one time given in great abundance from the commencement of the complaint, under an idea that it would prove as beneficial as in the case of lues. But it is now sufficiently known to be productive of great mischief, and particularly when carried, as it used to be, to a state of salivation. It retards the cure, and generally aggravates the symptoms. It is often given in small doses as an alterative, when the disease is on the decline, and perhaps with advantage; but it ought never to be employed in any other form.

When the excrescences discharge a sordid ichor, they may also be stimulated with the nitric-oxyde mercurial ointment: but the natives themselves, who rigidly abstain, also, from the internal use of mercury, employ, instead of this, a liniment of the rust or sub-carbonate of iron and lemon-juice, which proves a very useful application; though probably a solution of sulphate of zinc might answer better. \* And during the maturation of the eruption, they excite a profuse sweat by what may be called a warm air-bath, which consists in putting the patient into a cask with a fire at the bottom in a brazier or small fire-pan; the top being covered over with a blanket. Under this mode of treatment, a cure is said to be often effected in three weeks, and the funguses thoroughly healed.†

The SECOND, or AMERICAN VARIETY, is a far more terrible complaint; or rather is the same complaint in an exasperated and chronic form; and hence, though incomparably slower in its progress than the plague, is accompanied with a carbuncular eruption quite as mischievous and disgusting, and more certainly fatal in its issue. It was first distinctly described by M. Virgile, of Montpellier, who had practised with great reputation at St. Domingo. There can be little doubt of its being imported into the West Indies along with the slaves from the African coast; and is here called, as already observed, pian or epian, precisely synonymous with the African term yaw: the master-fungus being named mama-pian, or mother-yaw, as supposed to be the source or supply of the rest. The fungous berries, in this form, precisely correspond to the carbuncle already described under the trivial name of *terminthus*, which consists of a "core of fungus, spreading in the shape, and assuming the figure and blackish-green colour, of the fruit or berry of the pine-nut, or *terminthus* of the Greeks."†

GEN. IV.

SPEC. II.

a A. Rubula  
Guineensis.

Mercury injurious at first, though useful as an alterative on the decline of the disease.

Practice of the natives.

b A. Rubula  
Americana.

Evinceing a most exasperated and chronic form.

Probably imported from Africa by the slave-trade.

Mama-pian, or mother-yaw, what.

They are easily removed by paring away the hardened skin around them, cutting off the projecting tubercle, and touching its root freely with caustic. It seems that the dangerous practice of keeping the feet immersed in a medicated, and nearly boiling, bath for nine days, is sometimes tried in the West Indies. Mr. Mason has known of some instances in which the method proved fatal. — Ed.

\* Edin. Med. Com., vol. ii. p. 90.

† Cl. iii. Ord. ii. Vol. iii. Several of the febrile eruptive diseases are capable of affecting the same person only once during life; but, according to Mr. Mason's belief, the yaws is a solitary instance of a slow chronic disorder, producing similar constitutional changes, tending to future exemption. The time that elapses between the inoculation with yaw matter and the first appearance of a yaw tubercle on the spot where the matter was inserted, was found to be about three weeks. A dry scab was first formed, that remained stationary, and under it the yaw fungus became perceptible at the end of about three weeks, and soon afterwards other tubercles appeared on the body. In the instances referred to by Mr. David

GEN. IV.  
SPEC. II.  
β A. Rubula  
Americana.  
Description,

And it has hence been conjectured, but without sufficient foundation, that the disease of yaws is referred to by Galen and Dioscorides under this name.

The erosive secretion from the carbuncles of this variety generally, but especially from the mother-yaw, spreads widely, and, in its meandering, destroys all the surrounding parts, not excepting the bones.\* [Conradi is wrong in asserting, that the pains in the bones affect only negroes, and not Europeans.† Dr. Winterbottom

Mason (Edin. Med. Journ., No. cvi.), there was no obvious constitutional disturbance. The following is the description given by him of the American yaws:—“The first appearance of this disease is usually indicated by a foul ulcer, variously and fortuitously situated, and which is ultimately ascertained to be the spot of inoculation, the skin having been previously broken, either by accident or design. At an early stage this sore resembles a simple cutaneous ulcer, and only becomes suspicious by not healing with the use of common dressing. In a short time, however, the edges become spongy, and of a whitish colour. The poison now begins to act on the constitution, and, in most cases, circular patches of minute papulæ appear in various parts of the skin, giving it a granular appearance. In time some of these papulæ enlarge, become elevated, and covered with a crust. When this scab is cautiously removed, the whitish, spongy, granular yaw is distinctly seen. When the tubercles are left to themselves, they attain a considerable size, and a diameter for them of two inches is not uncommon. They are easily destroyed by caustic, without any mark or depression being left. For a few days the spot is distinguished by a deeper black colour than the surrounding skin, but it gradually fades into the natural colour. Mr. Mason has never seen a yaw tubercle on a mucous surface; sometimes at the angles of the mouth, but not on the lips, or in the nostrils. All yaw tubercles, he says, are composed of irregular circular segments, cutting each other more or less acutely, and forming waving lines around the base. The summit is often flat and depressed in the middle. Those of the strawberry shape are considerably elevated, and exhibit an irregular granular surface. In some parts, where the tubercles are numerous, they unite in clusters. Occasionally they appear in the form of a ring or semicircle, with a depression of sound skin in the middle. Whatever be their figure, they all discharge the same sort of matter, which is condensed into a similar scab, and which, being cautiously removed, shows the dingy granular surface underneath. Amongst healthy negroes, exposed to the simple action of the yaws, Mr. Mason noticed little constitutional disturbance. A tingling or itching sensation in the skin, and slight pains in the joints, were common, but not constant, symptoms. The mother-yaw, or that caused by inoculation, which generally ulcerates, sometimes gives considerable pain. As the disease advances, and the yaws become large and numerous, the constitution shows more evident signs of disorder, debility, emaciation, &c.; but never, in ordinary circumstances, causing confinement, or, under proper care and regimen, depressing the spirits. The eruption continues more or less numerous, until the disease is entirely extinguished, occasionally increasing and diminishing without any apparent cause. Towards the termination, the large tubercles often disappear, and a few others, after a considerable time, come out. Yet, during this interval of apparent recovery, the skin is seldom free from clusters of small papular yaws, which sometimes remain for weeks or months after every return of the larger yaws has ceased.” See Edin. Med. Journ., No. cvi. p. 57. — Ed.

\* This does not agree with Mr. Mason's description, who informs us, that the morbid secretion produces no immediate change on the surrounding skin, unless the cuticle happen to be broken. (Edin. Med. Journ., No. cvi. p. 56.) He bears witness, however, to the bones of the legs and arms becoming affected with simple enlargement; to the extension of ulceration down to the periosteum; and to the bones becoming carious. These affections of the bones seem, like those of syphilis, often to continue for years after the other symptoms have ceased, and, in some instances, to prove fatal. The membranes of the nasal cavities sometimes ulcerate, and the adjacent bones become diseased, followed by frightful and incurable ulceration of the nose, palate, and throat. — Ed.

† Grundriss des Pathol., b. ii. 826.

knew an European in Africa, a slave-dealer, who was dreadfully tormented with pains in his bones, in consequence of yaws.\*] Nothing can exceed the revolting scene of a yaw-house, or hospital for the reception of slaves suffering under this disease, in the West Indies. "Here," says Dr. Pinckard, "I saw some of the most striking pictures of human misery that ever met my eyes. Not to commiserate their sufferings is impossible, but their offensive and wretched appearance creates a sense of horror on beholding them. Of all the unsightly diseases which the human body is heir to, this is perhaps the worst. Some of these diseased and truly pitiable objects were crouching upon their haunches round a smoky fire; some stood trembling on their ulcerated limbs; others, supporting themselves by a large stick, were dragging their wretched bodies from place to place; while many, too feeble to rise, lay shivering with pain and torture upon the bare boards of a wooden platform."† Dr. Pinckard adds, that, "unhappily, this most odious distemper has not hitherto been found within the power of medicine: that it often exists for years, and, even where it sooner yields, its removal is more the effect of time and regimen, than of medical treatment."

GEN. IV.  
SPEC. II.  
S. A. Rubula  
Americana.

and pitiable  
progress.

This view of the case is too generally true: but, from the length of time which, under the best treatment, is required to effect a cure, it seldom happens that these miserable wretches receive all the attention which their situation deserves; and they are rarely sufficiently heedful of personal cleanliness, which, even alone, is of the utmost importance. This, with a generous diet to support the strength, pure air, regular hours of rest, and such exercise as can be used without fatigue, with warm balsamic applications to the sores, have not unfrequently succeeded where the bones have not become extensively carious. But the latter stages of the disease are horrible when it proves fatal; for the pains are excruciating, the debility extreme, and the bones are covered with foul exostoses and corrupt ulcerations.‡

Yet not incapable of alleviation, or even cure, by proper attention.

\* Edin. Med. Journ., vol. xxx. p. 323. As already noticed, Mr. David Mason denies that the American form of the disease is necessarily connected with fever, and maintains that, when febrile disturbance is present, it is only an adventitious circumstance. From his investigations, it appears that the poison or infectious matter of yaws is never, under any circumstances, conveyed through the medium of the atmosphere. Actual contact or inoculation is essential to the production of the disease. With the design of avoiding any labour, the negroes in Jamaica, he says, often purposely inoculate themselves, and mothers their children about the period of weaning, as is done also in Africa. Yet, according to Mr. David Mason, it is proved by experience that this disease is not milder in childhood, but, on the contrary, more unmanageable, and liable to be conjoined with infantile disorders, and to prove dangerous. Although the disease is often propagated by intentional inoculation, no doubt it is in numerous instances communicated by the accidental contact of the matter with an abraded part of the skin.—En.

† Notes on the West Indies, vol. ii. letter xxii.

‡ Mr. Mason suspects, from what he has observed, that the mother-yaw might not only be healed by means of caustic, but the constitutional disease prevented. The aggravated effects of the disease he refers to neglect, and to accidental unfavourable states of the general health. An ample supply of nourishing diet, frequent bathing, and moderate or equable warmth, seem to him to be requisite in the treatment. He is also in favour of tonic and diaphoretic medicines. Mercury, he says, affords no decided benefit, and, in alterative doses, is prejudicial. The plan which he prefers consists in frequent ablution in the tepid bath; clean



GEN. IV.  
SPEC. II.  
β A. Rubula  
Americana.  
Whites less  
subject to it  
than blacks.

It is happy for the European inhabitants of the West Indies that they are less liable to this miserable malady, than their slaves; probably from using a better diet, and being more attentive to cleanliness. As yaws is communicated in the same way as the venereal disease or the itch, it is just as much endemial in Africa as lues or itch is in this country. Were it not for the circumstances adverted to, Bertrandi's belief, that negroes are more disposed to this disease than whites, perhaps might not be correct. The same exposure might produce the same effects in the European as in the negro.\*

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linen and clothing; decoction of sarsaparilla, with small doses of tartarised antimony; and, in a later stage, tonic medicines, especially preparations of iron, with full diet, and a liberal allowance of animal food. Anasarcaous debility and functional derangement of the digestive organs, require frequent calomel purges, chalybeates, and proper diet. As a topical application, he commends the nitrate of silver, with which he not only destroys the crab-yaw, but others of long standing, which often linger in the skin after all signs of constitutional disease have ceased; and its effect on them was still more immediate and complete. Before the caustic is applied, the scab must be removed, in order to let the caustic touch the spongy granular substance. — ED.

\* Winterbottom, in Edin. Med. Journ., vol. xxx. p. 322. On this point the following observations are made by Mr. Mason:—“There is no foundation for Dr. Darwin's observation, that the yaws is hereditary; nor is it exclusively confined to the negro or African race. Neither Europeans nor Creoles are invulnerable, although it occurs very rarely among them. These classes, and also people of colour, view the disease with peculiar disgust; and as they are not exposed to intermingle with the infected, but are careful to avoid such intercourse, nor have the same motives which so often prompt negroes to inoculate themselves and their offspring, we may find, in these considerations, sufficient ground for the above exemption. Something, however, may be allowed to the European constitution being less susceptible of yaws than the African.” Op. cit., No. cvi. — ED.

# CLASS III.

## HÆMATICÆ.

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### ORDER IV.

#### DYSTHETICÆ.

##### CACHEXIES.

MORBID STATE OF THE BLOOD OR BLOOD-VESSELS; ALONE, OR CONNECTED WITH A MORBID STATE OF THE FLUIDS, PRODUCING A DISEASED HABIT.

THE words ordinarily used to import the diseases, meant to be comprehended under, the present order are CACHEXIA and IMPETRIGO, or, as the Greeks expressed it, λυγς, LUES, or LYLES. None of these, however, exactly answer, and that on two accounts: first, because the order is limited to those depravities which seem to originate or manifest themselves chiefly in vessels or fluids of the sanguineous function; and, secondly, because no very definite sense has hitherto been assigned to either of these terms, and they have, in consequence, been used in very different meanings by different writers, from the time of Celsus to our own day.

Upon this subject, the author has dwelt at large in his volume of Nosology, and it is not necessary to add to the remarks there offered. The word DYSTHETICÆ has hence been adopted for the purpose of avoiding confusion, and is justified by the EUSTHESIA and EUSTHETICÆ (ΕΥΣΘΕΣΙΑ) and (ΕΥΣΘΕΤΙΚΑ) of Hippocrates and Galen, importing a "well-conditioned habit of body," as their opposite, DYSTHETICÆ, from the same root, imports "an ill-conditioned habit," but a habit, as just observed, originating in, or dependent upon, the organised parts or fluids of the sanguineous function. Thus explained, it will be found to embrace the following genera:—

I. PLETHORA.	PLETHORA.
II. HÆMORRHAGIA.	HÆMORRHAGE.
III. MARASMUS.	EMACIATION.
IV. MELANOSIS.	MELANOSÆ.
V. STRUMA.	SCROFULA. KING'S EVIL.
VI. CARCINUS.	CANCER.
VII. LUES.	VENEREAL DISEASE.
VIII. ELEPHANTIASIS.	ELEPHANT-SKIN.

CLASS III.  
ORDER IV.  
Range and explanation of the order.

Import of the ordinal term.

CLASS III.  
ORDER IV.  
Dysthetica.

IX. CATACAUSIS.  
X. PORPHYRA.  
XI. EXANGIA.  
XII. GANGRÆNA.  
XIII. ULCUS.

SPONTANEOUS IGNESCENCE.  
SCURVY.  
VASCULAR DIVARICATION.  
GANGRENE.  
ULCERS.

## GENUS I.

### PLETHORA.

#### PLETHORA.

COMPLEXION FLORID; VEINS DISTENDED; UNDUE SENSE OF HEAT AND FULNESS; OPPRESSION OF THE HEAD, CHEST, OR OTHER INTERNAL ORGANS.

GEN. I.  
Plethora  
hitherto gene-  
rally neglected  
by nosologists.

PLETHORA is seldom ranked as a disease, and hence seldom treated of in a course of medical instruction. From what cause this omission proceeds I know not, nor is it worth while to enquire. That it is an important omission, will be obvious to every student before he has been six months in practice; for there will probably be few affections on which he will be sooner or more frequently consulted. Yet, the subject has not always been neglected by nosologists; for plethora, as a genus, occurs in the classifications both of Linnæus and Sagar.

General  
pathology.

In a state of health, the quantity of blood, produced from the substances that constitute our common diet, bears an exact proportion to the quantity demanded by the vascular system in its ordinary diameter and the various secretions which are perpetually taking place in every part of the body. But the quantity of blood produced within a given period of time may vary; and the diameter of the blood-vessels, or the call of the different secretory organs, may vary; yet, so long as a due balance is maintained, and the proportion of new-formed blood is answerable to the demand, the general health continues perfect, or is little interfered with. Thus a man exhausted and worn down by shipwreck or by having lost his way in a desert, or who is just recovering from a fever, will devour double the food, and elaborate double the quantity of chyle, in the course of four and twenty hours to what he would have done in the ordinary wear of life: but the whole system demands this double exertion; the double supply is made use of, and the general harmony of the frame is as accurately maintained as at any former period; there is no accumulation or plethora.

Examples of an  
instinctive or  
remedial power  
of nature.

Further exem-  
plified.

It should also be observed, that, in this case, the same remedial or instinctive power, that stimulates the sanguific organs to the formation of a larger proportion of blood, stimulates also the blood-vessels to a diminution of their ordinary capacity, and lessens the activity of the secretory organs; and hence, the difficulty to which the animal machine is reduced is also met another way, and a balance between the contained fluid and the containing tubes is often pre-



served as completely during the utmost degree of exhaustion as in the fullest flow of healthy plenitude.

We sometimes, however, meet with cases in which an increased supply of blood is furnished when no such increase is wanted, and the vessels remain of their ordinary capacity. And we also, sometimes, meet with cases in which, from a peculiar diathesis, the capacity of the vessels is unduly contracted, while no change takes place in the ordinary supply of blood. It is evident that, in both these contingencies, there must be an equal disturbance of the balance between the substance contained and the substance containing, and that the measure of the former must be too large for the measure of the latter. In other words, there must be in both cases an excess of fluid, or a plethora, though from very different, and what are usually regarded as opposite, causes: and hence it has been distinguished by different names; that proceeding from an actual surplus of blood being denominated a plethora *ad molem*, or a plethora in respect to its general mass, or absolute quantity; and that proceeding from a diminished capacity of the vessels being denominated a plethora *ad spatium*, or a plethora in respect to the space to be occupied.

It is possible, however, for both these causes of plethora to exist at the same time, and for the vessels to evince a contractile habit or diathesis, while the blood is produced in an inordinate proportion. And this, in truth, is by no means an uncommon state of the animal frame; for, where the excess of blood is the result of a highly vigorous action or entony of the organs of sanguification, we often see proof of the same entony or highly vigorous action through the whole range of the vascular system, and, indeed, of every other part of the machine; the pulse is full, strong, and rebounding; the muscular fibres firm and energetic, the complexion florid, the whole figure strongly marked. We have here the sanguine temperament; and this kind of plethora has hence been called the SANGUINE PLETHORA.

But we often meet with an inordinate formation of blood in a constitution where the vascular action is peculiarly weak, instead of being peculiarly vigorous; the muscular fibres are relaxed, instead of being firm; and the coats of the vessels readily give way, and become enlarged, instead of being diminished in their diameter; and where, instead of entony, or excess of strength, there is considerable irritability or deficiency of strength in the organs of sanguification.

Yet, though the cause is different, the result is the same; the vessels, notwithstanding their facility of dilatation, at length become distended, and a plethora is produced which has been denominated a plethora *ad vires*; or a plethora as it respects the actual strength of the system. The pulse is here indeed full, but frequent and feeble; the vital actions are languid; the skin smooth and soft; the figure plump, but inexpressive; all which are symptoms of debility of the living power, or rather of that peculiar diathesis, which has been distinguished by the name of the serous, phlegmatic, or pituitary temperament; and hence this sort of plethora has been commonly denominated SEROUS PLETHORA.

We have, hence, a foundation for the two following very distinct

# GEN. I. Plethora.

Morbid deviation from the ordinary rule of action:

and its consequences: operating in the production of opposite effects, being a

Plethora ad molem; and a Plethora ad spatium.

Both causes sometimes co-existent.

How indicated.

Hence called Sanguine.

Plethora ad vires, what.

How indicated.

Hence called Serous.

GEN. I.  
Plethora.

species of this affection, the names for which are derived from their proximate causes.

1. PLETHORA ENTONICA.
2. ——— ATONICA.

SANGUINE PLETHORA.  
SEROUS PLETHORA.\*

## SPECIES I.

### PLETHORA ENTONICA.

#### SANGUINE PLETHORA.

PULSE FULL, STRONG, REBOUNDED: MUSCULAR FIBRES FIRM AND VIGOROUS.

GEN. I.  
SPEC. I

To be distinguished from obesity: and seldom found with it.

SANGUINE plethora is more common to men; serous to women. It is the disease of manhood, of the robust and athletic. Plethora of this kind must be distinguished from obesity; in effect, they are rarely found in conjunction, for the entony, or excess of vigorous action, is common to every part of the animal frame; and hence, though it is probable, that a larger portion of animal oil is secreted than in many other conditions of the body, yet it is carried off by the activity of the absorbents, and there is no leisure for its accumulation in the cellular membrane. And hence, persons, labouring under sanguine plethora, are rather muscular than fat, and their distended veins lie superficially, and appear to peep through the skin.

Diagnostics.

In this state of the blood-vessels, slight excitements produce congestion in the larger vessels or organs. The head feels heavy and comatose; the sleep is disturbed by tumultuous dreams; the lungs labour in respiration; and the muscles feel a want of freedom or elasticity in exercise. If fever arise, it will assume the inflammatory type; and a slight excess in feasting or conviviality will endanger an apoplexy.†

Medical treatment.

The cure, however, is not in general accompanied with much difficulty; and far more easily effected in this species, than in the ensuing: for the entonic power may readily be lowered by venesection and purgatives; and its disposition to return may commonly be prevented by the use of refrigerants, as nitrate of potash, or other neutral salts, and an adherence to a reduced diet and liberal exercise; at the same time it should be observed, that, where the

\* Dr. Barlow distinguishes plethora into *absolute* and *relative* (Cyclop. of Pract. Med., art. PLETHORA); the former term implying that the redundancy of blood exceeds what the healthy state of the individual constitution would require or bear; the latter, that its quantity, without being absolutely excessive, is so in relation to the deficient powers of the constitution to dispose of it. But as these varieties of plethora do not comprise the whole subject, he notices a third condition of the blood, which takes place when, under moderate nutrition, there is defective excretion. In this state the system is oppressed, not so much by the quantity of nutriment, or the labour of disposing of it, as by the load of excrementitious matter, with which the blood is overcharged. — ED.

† Instead of saying that plethora is "the parent of pure inflammation" (Cyclop. of Pract. Med.), it would be more correct to regard it as creating a predisposition to inflammatory disorders. — ED.

plethora depends upon a sanguineous temperament, or phlogistic diathesis, venesection, though rightly employed at first, should be repeated with great caution, as it will tend to generate in the system a periodical necessity for the same kind of depletion, and consequently promote the disease it is designed to cure.\*

GEN. I.  
SPEC. I.  
Plethora  
atonica.

## SPECIES II.

### PLETHORA ATONICA.

#### SEROUS PLETHORA.

PULSE FULL, FREQUENT, FLEBLE: VITAL ACTIONS LAQUID;  
SKIN SMOOTH AND SOFT; FIGURE PLUMP, BUT INEXPRESSIVE.

THE general pathology we have already treated of: and the reasons, given under the last species for the usual appearance of sanguine plethora in persons of a spare and slender make, will explain the plumpness of figure and glossiness of skin, which so peculiarly mark the species before us. In the first, there is great and universal vigour and rapidity of action; the secretions are all hurried forward in their elaborations, and carried off as soon as produced. In the second, there is little vigour or activity of any kind, and whatever is eliminated is suffered to accumulate. Hence costiveness is a common symptom; the ankles are cold and pituitous; and the animal oil, when once separated and deposited in the chambers of the cellular membrane, remains there, becomes augmented, and produces corpulency and sleekness. The inertness of the body is communicated to the mind; every exertion is a fatigue; and the mind thus participating in the inertness of the body, the countenance, though fair and rounded, is without expression, and often vacant.

GEN. I.  
SPEC. II.

Diagnostics.

Debility is always a source of irritability: and hence there is great irregularity, and a seeming fickleness in many of the symptoms by which this species of plethora is characterised, and the results to which it leads. The bowels, though usually quiescent and costive, are sometimes all of a sudden attacked with flatulent spasms, or a troublesome looseness. The appetite is languid and capricious; the heart teased with palpitations, the chest with dyspnoea and wheezing; the head is heavy and somnolent; the urine pale, small in quantity, and discharged frequently.

\* An increase of bulk and a florid complexion, as Dr. Barlow observes, in which so many exult as evincing sound health, and which they endeavour by all the aids of good living to promote, should not be a source of unmixed congratulation; because they predispose to consequences by which both health and life may be forfeited. "Up to this period, however, disease cannot be said to have commenced, however it may have approached; and reduction of diet, with free bowels, and increase of active exercise, would suffice for getting back to sounder health, without any need of medical interference. When abatement of healthful energies becomes evinced by a low and oppressed pulse, diseased actions may be said to commence; and when the stage of irregular action ensues, sensible progress may be considered as made towards the establishment of febrile action and inflammatory disease." Medical aid and active discipline now become indispensable. See Cyclop. of Pract. Med., art. PLETHORA. — Ed.



## GEN. I.

## SPEC. II.

Plethora  
atonica.Medical  
treatment.Leading indi-  
cation that of  
giving general  
tone :by a gradual  
process.

Illustrated.

In this species, as in the last, we are compelled to begin with cupping or the use of the lancet. But, though the distended and overflowing vessels demand an abstraction of blood, it should never be forgotten, that the relief hereby afforded is only temporary; and that, as the disease is, in this case, an effect of debility, we are directly adding to the cause as often as we have recourse to the lancet. Our leading object should be to give tone to the relaxed fibres; and to take off the morbid tendency to the production of a surplus of blood by counteracting the irritability which gives rise to it. Our attack must be made upon the entire habit, which, as far as possible, should undergo a total change. The diet should be nutritious, but perfectly simple, and the meals less frequent, or less abundant, than usual; the sedentary life should give way to exercise, at first easy and gentle, but by degrees more active, and of longer extent or duration. Tonics, as bitters, astringents, and sea-bathing, may now be employed with advantage; and the muscular fibres will become firmer as the cellular substance loses its bulk.

The whole, however, must be the work of time; for although in morals it is a wholesome principle, that bad habits cannot too speedily be thrown off, it is a mischievous doctrine in medicine. Health being the middle term between excess and deficiency, every day is giving us a proof, that, where either of these extremes has become habitual, the system can only be let up or let down by slow degrees, so as to reach and rest at the middle point with certainty and without inconvenience. Professor Monro has furnished us with several very striking examples of this fact: and particularly among those who had acquired a habit of drinking very large quantities of spirituous potation. A man of this description, who had broken both bones of one leg, and was put, for a more speedy recovery, upon a diet of milk and water and water-gruel, was hereby thrown into a low fever with an intermitting pulse, twitching tendons, and delirium; during which he got out of bed and kicked away the box in which his leg was confined. A bystander and friend of the patient's, of the same irregular habit, ventured to tell the professor, that he would certainly kill him if he did not allow him ale and brandy; since, for several years antecedently, he had been accustomed to both these as his common drink: a little of each was, in consequence, permitted him, but the patient's friends did not tie him down to this little; for, extending the grant of an inch to an ell, they instantly gave the man a Scots quart of ale and a gill of brandy, which was his usual allowance for the evening: he slept well and sound; the next morning was free from delirium and fever; and, by a perseverance in the same regimen, obtained a speedy cure without the least accident.\*

\* Edin. Med. Ess., vol. v. part II. art. XLVI. With regard to the treatment of plethora from inadequate excretion, Dr. Barlow has remarked, that a constitution naturally feeble, especially if insufficient exercise be taken, sends the blood to the surface too languidly for proper exhalation from the skin to take place. The best preventive of this diseased condition seems, to him, to be exercise, slighter degrees of which would also be the most effectual cure. Dr. Barlow is likewise an advocate for warm bathing, combined with frictions, and other means of softening and detaching hardened cuticle. The Russian vapour-bath, so accurately described by the late Dr. Clarke, appears well calculated for establishing a healthy state of the cutaneous functions. — Ed.

## GENUS II.

## HÆMORRHAGIA.

## HEMORRHAGE.

## FLUX OF BLOOD WITHOUT EXTERNAL VIOLENCE.

THE term hæmorrhagia, or hemorrhage, is derived from the Greek αἷμα, "sanguis," and ῥήγνμι, "rumpo." Dr. Cullen has adopted the same name for an order of diseases; but few parts of his arrangement are more open to animadversion, and in fact have been more animadverted upon, than the present. The order of hemorrhages, or fluxes of blood, ranks in Dr. Cullen's system under the class pyrexia, or febrile diseases. Pyrexia, however, is only an accidental symptom in idiopathic hemorrhages of any kind, and has hence been omitted by all, or nearly all, other nosologists in their definitions: while Dr. Cullen himself has found it impossible to apply it to many hemorrhages, among which are all those that are called passive; and he has hence been obliged to transfer the whole of these to another part of his system, notwithstanding their natural connection with the active, and to distinguish them by the feeble name of *profusions*, instead of by their own proper denomination.

## GEN. II.

Term how employed by Cullen: but incorrectly, and with general disapprobation.

Profusions, what.

Blood, from whatever organ it flows, may have two causes for its issue. The vessels may be ruptured by a morbid distention and impetus; or they may give way from debility and relaxation, their tunics breaking without any peculiar force urged against them, or their exhalants admitting the flow of red blood, instead of the more attenuate serum.\* To the former description of hemorrhages, Dr. Cullen has given the name of active; to the latter that of passive. The distinction is sufficiently clear; and, under the names already employed in the preceding genus of this system, will lay a foundation for the two following species:—

1. HÆMORRHAGIA ENTONICA.    ENTONIC HEMORRHAGE.
2. ————— ATONICA.    ATONIC HEMORRHAGE.

\* On this subject some judicious observations are made by M. Andral (Anat. Pathol., tom. i. p. 338.), who cautions the practitioner not to confound discharges of blood from mucous membranes with other affections, of which a degree of inflammation is necessarily a part. In hemorrhage, there may, indeed, be determination of blood to the part; but it seems as if the fluid, instead of accumulating in the vessels of the mucous membrane, escaped as soon as it reached them, owing to some unknown modification of them. There may also be a passive fulness of them, as in obstruction of the venous circulation. But an unusual flow of blood to, or fulness of, the vessels, is not essentially concerned in every kind of hemorrhage; for the qualities of the blood may be so altered, that the natural cohesion of its particles to one another may be weakened, and then it may readily escape from the vessels, producing hemorrhage, quite independent of irritation, in several parts of the system at the same time. This is what is observed in scurvy and typhoid fevers, and in every case where attention to causes, and the look of the blood itself, afford a conviction, that this fluid is materially altered. — ED.

SPECIES I.  
HÆMORRHAGIA ENTONICA.  
ENTONIC HÆMORRHAGE.

ACCOMPANIED WITH INCREASED VASCULAR ACTION; THE BLOOD  
FLORID AND TENACIOUS.

GEN. 11.  
SPEC. I.  
General  
pathology.

As the outlets of the body are but few, and all of them communicate with numerous organs, we cannot always determine with strict accuracy from what particular part the discharge flows. We have, however, sufficient reason for the following varieties: —

$\alpha$ Narium.	Entonic bleeding at the nose.
$\beta$ Hæmoptysis.	—— spitting of blood.
$\gamma$ Hæmatemesis.	—— vomiting of blood.
$\delta$ Hæmaturia.	—— bloody urine.
$\epsilon$ Uterina.	—— uterine hemorrhage.
$\zeta$ Proctica.	—— anal hemorrhage.

Predisponent  
cause.

Local cause.

The great predisponent cause of active hemorrhage, wherever it makes its appearance, is plethora or congestion. A plethoric diathesis will, however, only predispose to a hemorrhage *somewhere* or *other*; and hence there must be a distinct local cause that fixes it upon one particular organ, rather than upon another.\* The chief local cause is a greater degree of debility in the vessels of such organ, than belongs to the vascular system generally. But there are other and more extensive causes that operate upon some organs, and which consist in an unequal distribution of the blood, and its peculiar accumulation in some vessels rather than in others. Thus, some organs acquire developement and perfection sooner than

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\* The reader will find many valuable observations on internal hemorrhages, in the Lunnleian Lectures, delivered at the College of Physicians in May, 1832, by Dr. Watson, and published in the Medical Gazette, vol. x. He espouses the doctrine that, in a great majority of instances, the escape of the blood is not dependent upon rupture of the vessels, but is effused through those pores or outlets which afford a passage to the natural fluids of the part, and to which we apply the name of exhalents. These hemorrhages by exhalation he divides into the *idiopathic*, or such as are independent of any discoverable change of texture in any part of the body; and the *symptomatic*, or those which are connected with organic disease; and this latter class is subdivided into two species; the first including cases, in which the hemorrhage is dependent upon disease in the very part from which the blood proceeds; and the second, those examples in which the disease is situated in some other part, capable of influencing the circulation in the former, by reason of some intelligible connection between them, either of structure, or function, or mutual relation. Dr. Watson adverts to the fact, that hemorrhage by exhalation occurs much more frequently from the mucous membranes, than from any other tissues of the body; and also to the remarkable circumstance, that hemorrhage from the brain differs from most other internal bleedings, in not taking place by exhalation, but from actual rupture of a blood-vessel. This is attempted to be accounted for, partly by a reference to the structure and arrangement of the cerebral arteries, but chiefly by the consideration of their great liability to disease. — Ed.



others, of which the head, peculiarly large, even in infancy, furnishes us with a striking example: and, in the promotion of such developement, the flow of the blood is directed with greater force and in greater abundance. And hence, while the coats of the blood-vessels in this organ are yet tender, and destitute of that firmness which they derive from age, we have reason to expect hemorrhage as a frequent occurrence, and particularly from the vessels of the nostrils; because there is in the nose, for the use of the olfactory sense, a considerable network of blood-vessels expanded on the internal surface of the nostrils, and covered only by thin and weak integuments. And on this account, we see why young persons are so much more subject to bleedings from this organ, than those in mature life. Hæmoptysis, or spitting of blood, takes place more commonly a few years later, and when the animal frame has acquired its full growth, and, consequently, the vascular system its full extent or longitude. Antecedently to this, the impetus and determination of blood are greater in the aorta and its extreme ramifications than in the pulmonary artery, because more of the vital fluid is demanded for the progressive elongation of the very numerous arteries that issue from the former: and, consequently, a greater tendency to plethora exists in this direction till the age of about fifteen or eighteen, than in the direction of the lungs. Till this period of life, therefore, we have no reason to expect hemorrhage from the respiratory organs. When this term, however, has arrived, the bias is thrown on the other side: and, the vessels of the corporeal and of the pulmonary circulation being equally perfected, the tendency to accumulation will be in the latter, in consequence of their shorter extent. This tendency will continue till about the age of thirty-five; which is exactly correspondent with the observation of Hippocrates, who has remarked, that hæmoptysis commonly occurs between the age of fifteen and that of five-and-thirty. We have explained why it does not often occur before fifteen; but what is the reason of its seldom occurring after the latter period? Dr. Cullen has ingeniously explained it in the following manner. The experiments of Sir Clifton Wintringham, he observes, have shown, that the density of the coats of the veins, compared with that of the arteries, is greater in young than in old animals; from which it may be presumed, that the resistance to the passage of the blood from the arteries into the veins is greater in young animals than in old; and while this resistance continues, the plethoric state of the arteries must be perpetually kept up. The very action, however, of an increased pressure against the coats of the arteries gradually thickens and strengthens them, and renders them more capable of resistance; whence in time they come not only to be on a balance with those of the veins, but to prevail over them; a fact which is also established by the experiments just adverted to.

After thirty-five, therefore, the constitutional balance becomes completely changed, and the veins, instead of the arteries, are chiefly subject to accumulation. The greatest congestion will usually, perhaps, be found in the vena portarum, in which the motion of the venous blood is slower than elsewhere; and such congestion alone will frequently act upon the neighbouring arteries, and induce what may be called a reflex plethora upon them, in conse-

GEN. II.

SPEC. I.

Hæmorrhagia  
entonica.Hæmorrhage  
from the nose,  
whence.And why  
chiefly in  
young persons.Hæmoptysis,  
whence.And why  
chiefly in  
mature life.Why a rare  
occurrence after  
thirty-five.Whence  
hæmatemesis;  
anal hæmor-  
rhage;

## GEN. II.

## SPEC. I.

Hæmorrhagia  
entonica.and hemor-  
rhages from  
other abdominal  
or pelvic  
organs.Active hemor-  
rhage fre-  
quently a  
result of  
incidental  
causes: as  
violent exer-  
tion, external  
or internal;  
suppressed  
evacuations;  
shock of  
electricity;  
wound of a  
leech in  
debilitated  
stomachs.Local stimu-  
lants often  
occasional  
causes.

quence of their inability of unloading themselves: and hence the chief origin of hæmatemesis, anal hemorrhage, and various other hemorrhages from the abdominal and pelvic organs.\*

All these organs, however, are exposed to hemorrhage from incidental causes, as well as that constitutional change which has a tendency to produce the disease vicariously.

Thus, hemorrhage in all of them is occasionally produced by violent exertion, as great muscular force, vehement anger, or other passions or emotions of the mind; severe vomiting, or coughing; suppressed evacuations of various kinds, especially hemorrhoids of long standing, catamenia, habitual ulcers, issues, or chronic eruptions of the skin†: as also by the wound of a leech swallowed accidentally.‡ But in this last case it is probable, that the living principle of the stomach is in a state of weakness, as in all other cases in which exotic worms are found to continue alive under its action: since we know that this action, when in full vigour, is sufficient to destroy oysters, frogs, slugs, leeches, and various other cold-blooded animals in a short time. Hæmoptysis is also said by many writers to have been produced by leeches accidentally taken into the stomach by a draught of water.§ But it is probable, that in this case there is a deception; and that the blood, discharged by coughing from the trachea, has first passed into it from the stomach and mouth.

Local stimulants are also an occasional cause. Thus the vessels both of the kidneys and rectum have been excited to hemorrhage by an injudicious use of aloes, terebinthinate preparations, and pungent alliaceous sauces. And the former by cantharides, whether applied externally or internally: for Schenck and other writers have given examples of hæmaturia excited in irritable constitutions by vesicatories alone.||

\* The following conditions are specified by Andral, as liable to bring on hemorrhage from the mucous membrane of the digestive tube (*Anat. Pathol.*, tom. ii. p. 150.):—1. A mechanical obstruction of the circulation in the vena portæ. 2. Irritation of the mucous coat of the stomach and bowels. Thus, certain corrosive poisons, taken into the stomach, will be followed by hæmatemesis, and strong drastic medicines will occasion hemorrhage from the bowels. 3. Sanguineous congestion, neither of a mechanical kind, as in the first case, nor the result of irritation, as in the second. The blood simply accumulates at a certain point, and makes its escape; and that is all that can be ascertained. 4. Certain states of the blood itself, making it disposed to quit its proper channels, as exemplified where particular poisons are absorbed; in typhus, and also in yellow-fever, with black vomit. 5. Lastly, blood in the cavity of the stomach and bowels, may have got there by being swallowed, as happens when an aneurism of the aorta bursts into the œsophagus.

In hæmatemesis, the blood is usually poured out by a kind of exhalation; the bleeding from ulcerations of any considerable artery, or vein, being comparatively rare. Three examples of the latter occurrence are quoted by Dr. Watson (*Med. Gazette*, vol. x. p. 434.); one from the *Journ. Hebdomadaire* for May, 1830; a second from Dr. Latham's patients in St. Bartholomew's Hospital; and a third from the practice of Dr. Clark. In all these cases, there had been marked symptoms of gastric disorder for some time previously to the hemorrhage, and two of the subjects had been habitual drunkards.—*Ed.*

† Percival's *Essays*, ii. p. 181.

‡ Galen, *De Loc. Affect.*, lib. iv. cap. v. Riverius, *Observ. Med.*, cent. iv. obs. 26.

§ Galen, *De Loc. Affect.*, lib. iv. cap. v. Borelli, cent. i. obs. 24. †

|| Schenck, lib. vii. obs. 124., ex Langio. Hist. Mort. Uratislav., p. 58.



Occasionally, however, all the various kinds of hemorrhages before us have assumed a different character, and proved salutary and critical. Thus, cephalitis has often ceased suddenly on a free and sudden discharge of blood from the nostrils; pneumonitis, from what has been deemed an alarming hæmoptysis; visceral infarctions, from a liberal evacuation of the hemorrhoidal vessels; a jaundice has been carried off by a profuse hæmaturia \*, and fevers of various kinds have instantly yielded to a spontaneous appearance of any of them.

Such hemorrhages, however, though salutary in their onset, must be cautiously watched; since, if not checked when they have accomplished their object, they are apt to pass into a chronic or periodic form. Hence, many persons have monthly discharges from the rectum; others from the nostrils; others, again, occasional or periodic, from the lungs; and a few from the stomach. † Tulpinus gives a case of chronic hæmoptysis that continued for thirty years ‡; and there are other instances of much longer duration. §

There is also another reason for an early attention to spontaneous hemorrhages, and that is, the profuseness of the discharge which sometimes takes place, and the alarming exhaustion which follows. Dr. Banyer || gives a case of this sort, in which the discharge was from the bladder; Büchner, another case, from the same organ, in which it amounted to not less than four pounds ¶; and other writers bring examples of its having proved fatal.

The largest quantities, however, are usually lost from the nostrils. Ten, twelve, and upwards of twenty pounds have been known to flow away before the hemorrhage has ceased. Bartholin mentions a case of forty-eight pounds \*\*: Rhodius another of eighteen pounds lost within thirty-six hours ††; and a respectable writer in the *Leipsic ACTA ERUDITA*, a third, of not less than seventy-five pounds within ten days ‡‡; which is most probably nearly three times as much as the patient possessed in his entire body at the time the hemorrhage commenced. In the *Ephemera of Natural Curiosities* is a case in which the quantity indeed is not given, probably from the difficulty of taking an account of it, but which continued without cessation for six weeks. § §

In ACTIVE HEMORRHAGES FROM THE NOSTRILS, the epistaxis of many writers, the discharge is usually preceded by some degree of local heat and itching; and occasionally by a flushing of the face, a throbbing of the temporal arteries, a ringing in the ears, or a pain or sense of weight and fulness in the head. Yet, not unfrequently, the blood issues suddenly without any of these precursors; for, as we have already observed, the arteries, distributed over the Schneiderian membrane, are very numerous and superficial, and a very slight irritation is often sufficient to rupture them. That insolation, or exposure to the direct rays of the sun,

GEN. II.  
SPEC. I.  
Hæmorrhagia  
entonica.  
Hemorrhage  
sometimes  
critical and  
salutary.

Apt to pass into  
a chronic form.

Flow of blood  
often profuse.

Largest  
quantities lost  
are generally  
from the  
nostrils.  
Examples.

α II. Entonica  
narium.  
Precursive  
symptoms  
common:  
but not always  
to be met with.

Occasional  
causes.

\* Schenck, obs. lib. III. serm. II. n. 258.

† Rhodius, cent. II. obs. 94. Ab Heer. Introduct. in Archiv. Archæi.

‡ Lib. II. cap. II.

§ Phil. Trans., vol. XLII.

\*\* Anat. Renov., lib. II. cap. VI.

†† Lib. 1688. p. 205.

§ N. Act. Nat. Cur., vol. I. obs. 1.

¶ Miscell. 1728, p. 1496.

‡‡ Cent. I. obs. 90.

§§ Dec. I. ann. III. obs. 243.



GEN. II.

SPEC. I.

a II Entonica  
narium.

a cold in the head, or cold applied to the feet or hands, coughing, or sneezing, especially upon the use of sternutatories, an accidental blow upon the upper part of the nose or forehead, or a jar of the entire frame, as on stumbling, should be sufficient to produce this effect, can easily be conceived; and these, in truth, are the common occasional causes: but it is singular, that it should follow, in some highly irritable idiosyncrasies, upon such very trivial excitements as have been noticed by many pathologists. Thus, Bruyerin \* gives an example in which the nostrils flowed with blood upon smelling at an apple; Rhodius, upon the smell of a rose †; and Blancard, upon the ringing of bells ‡: and when we find the same effect produced by various emotions of the mind, as terror, anger, and even a simple excitement of the imagination §, we may readily trace by what means the philosophers and poets of the eastern world, and even some of those of the western, were led to regard the nose as the seat of mental irritation, the peculiar organ of heat, wrath, and anger; and may discover how the same term נחש (ap or aph) came to be employed among the Hebrews to signify both the organ and its effect, the nose and the passion of anger to which it was supposed to give rise.

Nostrils, why  
regarded as  
the seat of  
mental irrita-  
tion.

We have already observed, that the quantity of blood discharged by a spontaneous hemorrhage from the nostrils, is sometimes enormous. This, however, is a more common result of passive than of active hemorrhage; and is more usually found in advanced than in early life: the two stages in which nasal hemorrhage chiefly shows itself. And where it frequently returns, it is apt, like the hemorrhoids, to form a habit of recurrence that cannot be broken through without danger, except by an employment of evacuants, or some other drain. ||

Medical  
treatment.  
Often revellent  
or critical:  
and should not  
be suddenly  
restrained.

If it be evidently connected with entonic plethora, or accompanied with the local symptoms just enumerated, it will afford a more effectual relief, than bleeding in any other way, and should not be restrained till it has answered its purpose. Even a small portion of blood, not amounting to more than a table-spoonful or two, when thus locally and spontaneously evacuated, has afforded, on some occasions, a wonderful freedom and elasticity to an oppressed and heavy head: and, when more copious, has probably prevented an apoplectic or epileptic fit, as it has often formed a salutary crisis in inflammation of the brain, or fevers in which the brain has been much affected.

In other cases  
to be checked  
at once:  
and by what  
means.

But when these reasons do not exist, the bleeding should be checked by astringent applications. Cold is the ordinary application for this purpose, and it commonly succeeds without much trouble. Cold water may be sniffed up the nostrils, or thrown up with a syringe; but the exertion of sniffing, or even the impetus of the water alone, where a syringe is employed, sometimes proves an excitement that more than counterbalances the frigorific effect. Independently of which, there is an advantage in leaving the blood

\* Bruyerinus, De Re Cibariâ, lib. i. cap. 24.

† Rhodius, cent. iii. obs. 99.

‡ Blancard, Collect. Med. Phys., cent. vi. obs. 74.

§ Rhodius, cent. i. obs. 89.

|| J. P. Frank, De Cur. Hom. Morb. Epit., tom. vi. lib. vi. part iii. 8vo. Viennæ, 1821.

to coagulate on the ruptured orifice of the vessel, which these methods do not allow. By means of a syringe, however, we can throw up, when necessary, astringents of more power than cold water, as vinegar, or the sulphuric acid properly diluted, or a solution of sulphate of zinc, copper, iron, or lead; after which we should force up tents of lint moistened with the same, and particularly with extract of lead diluted with only an equal quantity of water, as high as we are able, with a probe or small forceps, so as to form a tight compress: the styptic agaries can be rarely used to advantage. The face may, at the same time, be frequently immersed in ice-water, or water artificially chilled to the freezing point; and the temples, or even the whole of the head, be surrounded with a band or napkin moistened with the same, and changed as soon as it acquires the warmth of the skin. When tents are used, they have sometimes been dipped in moistened powder of charcoal, which, of itself, has proved an excellent styptic. Cold applied to the back sometimes succeeds, but often fails; it is more certain of success, when applied to the genitals.

Emetics have occasionally been of service, and are recommended by Stall.\* The principle upon which they may be presumed to act will be noticed under hæmoptysis. The bleeding has sometimes been checked by a sudden fright†, probably from the cold sweat that so often attends such an emotion: and Reidlin gives a case in which it was cured by sneezing‡; but this was probably a case of atonic hæmorrhage, in which the spasmodic action might assist in corrugating the mouths of the bleeding vessels.

It is rarely necessary, or even proper, in this variety of hæmorrhage, to employ any internal astringent or other tonic: but if this discharge should be excessive, and produce debility, the same plan may be resorted to as will be recommended under the ensuing species.

In HÆMOPTYSIS, or SPITTING OF BLOOD, it is not always easy to determine from what vessel, or even from what organ, the bleeding proceeds: for the blood may issue from the posterior cavity of the nostrils, or from the fauces, as well as from the lungs. If, however, from the first, it will cease upon bending the head forward, or lying proœumbent, and will probably flow from the nose: if from the second, we shall commonly be able to satisfy ourselves by inspection. Blood from the stomach is of a darker colour, thrown up by vomiting, and betrays an intermixture of food.

If the hæmoptysis be from the lungs, and belong strictly to the present species, and more especially if it be a result of ætonic plethora, the blood will be chiefly thrown up by coughing; and the discharge will be preceded by flushed cheeks, dyspnœa, and pain in the chest. There is usually, also, a sense of tickling about the fauces, which often descends considerably lower; Salmuth asserts, that he has known it extend to the scrobiculus cordis.§ These symptoms, moreover, indicate that the blood flows from a branch of the pulmonary, rather than of the bronchial artery. The blood is here of a florid hue, and the hæmorrhage sudden and often copious. If a branch of the bronchial artery give way, the flow of

GEN. II.

SPEC. I.

æ II. *Entonica*  
*narium*.Internal  
astringents  
not often  
necessary.æ II. *Entonica*  
hæmoptysis.  
Not easy to  
determine  
from what  
quarter the  
blood flows.Symptoms  
indicating its  
proceeding  
from the lungs:from branches  
of the pulmo-  
nary artery:  
from branches  
of the bronchial  
artery.

\* Bat. Med., part III. p. 21.

† Linn. Med., ann. i. obs. 24.

† Panazol. Pémécost., v. obs. 27.

§ Cent. III. obs. 43.

GEN. II.  
SPEC. I.  
β II. *Entonica*  
*hæmoptysis*.

blood is usually much slower, and smaller in quantity: there are no precursive symptoms, the blood is rather hawked or spit up intermixed with saliva, and, from being longer in its ascent, is of a darker colour. From its lodgment, however, in the air-vesicles, it becomes a cause of irritation, and a frothy cough ensues, sometimes accompanied with a little increase of the pulse and other febrile symptoms, as a feeling of heat and some degree of pain in the breast, which subsides after the ejection, and returns if there be a fresh issue.

Prognostics ;  
favourable :

If the structure of the lungs be sound, we have no reason to prognosticate danger. On the contrary, it often affords great relief to a gorged liver, and has proved critical in obstructed menstruation.\* Excreted with the sputum, it is frequently serviceable, as we have already observed, in cases of asthma, pleurisy, and peripneumony. But if it have been preceded by symptoms of phthisis, or a strumous diathesis, there is a great reason for alarm; for we can have little hope, that the ruptured vessel will heal kindly and speedily, and have much to fear from the fresh jets, by which the extravasated blood becomes deposited, and forms a perpetual stimulus in an irritable organ.

unfavourable.

Occasional  
causes.

The general pathology has been already laid down. The incidental causes are, misformation of the chest; undue exertion of the respiratory muscles, whether in running, wrestling, singing, or blowing wind instruments; excess in eating and drinking; or a violent cough. As a symptom or sequel, it occurs in wounds, phthisis, or the suppression of some accustomed discharge.

Medical  
treatment.  
Bleeding :

In active hemorrhage from the lungs, venesection is one of the most important steps towards a cure; and the blood should be drawn freely at once, rather than sparingly and repeatedly; though a second and even a third copious use of the lancet will often be found expedient. Emetics have been recommended, but they are of doubtful effect. They augment the vascular volume by relaxing the capillaries; but they stimulate locally by the act of rejection. Drastic purgatives are avoided, because of the straining; but the straining in vomiting is greater and more direct.

Emetics :

Drastic purga-  
tives to be  
avoided.

Different effects  
of vomiting and  
nauseating.

Dr. Brian Robinson of Dublin, who was one of the most strenuous promoters of this mode of practice in his day, accounted for the benefit of emetics by the constriction which he conceived they produce upon the extreme vessels everywhere; but, to act thus, they should rather nauseate than vomit; for in nausea we have great vascular depression, and a cold and general collapse on the surface; while vomiting is known to rouse the system generally, and determine towards the surface. Upon the recommendation of Dr. Robinson, Dr. Cullen followed the plan in several cases: "but in one instance the vomiting," says he, "increased the hemorrhage to a great and dangerous degree; and the possibility of

Treatment.  
Vomiting has  
increased the  
hemorrhage.

\* In the Lumleian Lectures for 1832, Dr. Watson related some striking examples, in which the menstruation, as one might say, took place for several years through the lungs, without any apparent injury of the general health. Among the patients of the celebrated Hoffman was a woman, who, for eight years, remained subject to a bleeding from the nose, which came on regularly every month, a few days before the menstrual period, and ceased upon the flowing of the catamenia. Then the direction of this periodical discharge was changed; and, for six years more, instead of epistaxis, she suffered hæmoptysis, and afterwards this was exchanged for hæmatemesis. — Ed.



such an accident again happening has prevented all my further trials of such a remedy." \* Nauseating has on this account been preferred on the Continent to full vomiting in hemorrhage from the stomach, and indeed various other organs, as well as from the lungs; and ipecacuan in small doses has been generally preferred to the metallic salts, as more manageable; half a grain, or even a quarter of a grain, being given every quarter of a hour, for many hours in succession. †

In general, however, we shall find it as successful and far less distressing to employ mild aperients and sedatives. The first, and particularly neutral salts, are alone of great benefit, and their action should be steadily maintained. Sedatives are of still higher importance, and especially those that reduce the tone of the circulation, as nitre and digitalis. The first, in about ten grains to a dose, should be given in iced water, and swallowed while dissolving; the dose being repeated every hour or two, according to the urgency of the case. If there be much cough, it must be allayed by opium and blisters. Local astringents we cannot use, and general astringents are here manifestly counter-indicated, however useful in passive hemorrhage: though it should be recollected that, when in active hemorrhage from the lungs is profuse and obstinate, the vessels lose their tone, and fall into a passive state.

In HÆMATEMESIS the blood is evacuated from the alimentary canal at either extremity, whether that of the mouth or of the anus; for the term is used thus extensively by the Greek writers. In both cases it is discharged in active hemorrhage with a considerable expulsive effort; and the discharge is preceded by tensile pain about the stomach; and accompanied with anxiety and faintness.

The quantity discharged from the stomach is in most cases larger than what is discharged from the lungs, and of a deeper hue: it is also thrown up by the act of vomiting, and usually intermixed with some of the contents of the stomach. And hence there is no great difficulty in determining as to the source of the hemorrhage. ‡ Hæmatemesis, however, is far more frequently a disease of atony than of entony, and hence chiefly belongs to the next species. Its usual exciting causes, when it occurs under an entonic character, are concussion or other external violence, as a shock of electricity §, some strong emotion of the mind, as rage or terror, vomiting or pregnancy. It has also occasionally been found to afford relief in suppressed catamenia, or been vicarious of it.

The pathology we have already given: the blood may proceed from the spleen, the liver, the pancreas, the stomach itself, or the

GEN. II.  
SPEC. I.  
β II. Entonica  
hæmoptysis.

Mild cathartics  
and sedatives.

γ H. Entonica  
hæmatemesis.

Term how  
employed by  
the Greek  
writers.

Blood thrown  
up from the  
stomach how  
distinguished  
from that  
thrown up  
from the lungs.

\* Mat. Med., part II. ch. XIX. p. 470.

† Keck, Abhandlung und Beobachtungen. — Medicinisches Wochenblatt. 1783. No. XLIX.

‡ The blood, which comes from the lungs, is commonly florid, and mixed with bubbles of air, frothy; that which proceeds from the stomach is usually dark-coloured, coagulated, or grumous, and mingled with fragments of the food, with mucus, or bile. Dr. Watson in Linnæus Lectures for 1832. — Ed.

§ Percival's Essays, vol. II. p. 181.

The statement, with respect to the blood proceeding from the spleen, liver, or pancreas, is not correct. Disease of these organs may lead to hæmatemesis, or exist simultaneously with it; but the source of the blood is in the vessels of the mucous coat of the stomach itself. As Dr. Watson has observed, a

GEN. II.  
SPEC. I.  
γ II. Entonica  
hæmatemesis.

δ II. Entonica  
hæmaturia.  
Precursory  
symptoms.  
Stymatosis  
of Vogel.

Some ground  
for the distinc-  
tion it imports.

Not often an  
entonic affec-  
tion.

smaller intestines; and the mode of treatment should be as already advised for hæmoptysis. [From the effects of that insidious disease, chronic inflammation of the stomach, an hæmatemesis is sometimes produced, that rapidly cuts off the patient.\* Hæmatemesis is also one of the earliest symptoms of scirrhus or cancer of that organ; taking place long before the commencement of ulceration, as well as in the ultimate stages of the disease. Then, as Dr. Watson conceives†, it may be owing to a breach in some vessel of magnitude, though he represents it as being more commonly a general oozing or exhalation from the ulcerated surface.]

In HÆMATURIA, the blood is evacuated at the urethra, and the evacuation is preceded by pain in the region of the bladder or kidneys, and accompanied with faintness. The blood is sometimes intermixed with urine, but occasionally flows pure and uncombined: and, in this last state, the disease is called by Vogel stymatosis, and the bleeding is supposed to proceed from the bladder rather than from the kidneys; that from the latter being smaller in quantity, and remaining a longer time in the passages, and consequently of a darker colour. There is some ground for this opinion; for, when the bladder is the seat affected, there is far more local pain and faintness than when the affection is in the kidneys. Hippocrates, indeed, has observed that, when the blood flows pure, copiously, and suddenly, and without pain, it proceeds from the kidneys, but, when it is small in quantity, and of a blackish colour, and accompanied with much heat or pain, or both, its source is the bladder. But this remark, instead of opposing, tends rather to corroborate, the preceding; for, according to both views, the seat of disease is distinguished by the greater or less degree of uneasiness that attends the discharge; and this whether the quantity discharged be larger or smaller.

It is not often, though sometimes, an entonic disease, or an active hemorrhage. Its exciting cause is frequently a stone in the bladder, or a violent blow on the kidneys, or on the bladder, especially when the latter is full. It is also said by Schenck‡ and other writers to be occasionally produced by cantharides, whether employed externally or internally. §

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great majority of cases of hemorrhage from the stomach are symptomatic. That which depends upon incipient cancer of the stomach, while it is by no means of rare occurrence, is also more frequently obscure than other instances. In general, an attention to symptoms, and the past history of the patient, will readily elucidate hæmatemesis from the action of corrosive poisons; from the rupture of an aneurism; from the influence of scurvy, or purpura; from cancer of the stomach in its advanced stages; from organic disease of the liver, spleen, or heart; from an attack of yellow-fever; from suppressed or imperfect menstruation; or from the pressure of the gravid uterus. See Dr. Watson's Observations, as published in Med. Gaz., vol. x. p. 439. — Ed.

\* Dr. Abercrombie, in Edin. Med. Journ., No. lxxviii. p. 2.

† Med. Gaz., vol. x. p. 436.

‡ Lib. vii. obs. i. 24., ex Langiò.

§ Hist. Mort. Uratislav., p. 58. The editor has known hæmaturia occur in several cases in which cancerous disease of the neck of the uterus had extended by ulceration into the bladder. In one woman, whom he lately attended in Boswell Court, Devonshire Street, the bladder would sometimes become so full of coagulated blood, that a retention of urine used to be induced, in which the catheter had little effect, unless introduced much further than usual. He has also

In connection with the general course of treatment already recommended in the preceding varieties, the compound powder of ipecacuan may here be employed with great advantage: for the pain and irritation are often intolerably distressing, and, on this account, demulcent drinks are frequently found to produce considerable relief.

In UTERINE HEMORRHAGE, the blood is discharged from the womb with a sense of weight in the loins, and of pressure upon the vagina. This is the menorrhagia of most of the nosologists, and is often, but very erroneously, described as an excess of the menstrual flux. It is, in truth, a real hemorrhage or issue of blood, instead of menstrual secretion, which is often entirely suppressed, though sometimes a small but inadequate portion is intermixed with the uterine bleeding: and hence Hoffman has properly denominated it uteri hemorrhagia. It occurs both in an entonic and an atonic state of the vessels, and especially of the general system: and, from the remarks offered under PLETHORA, it is not at all to be wondered at that hemorrhage should in both conditions take place from the uterus very frequently, and, perhaps, more so than from any other organ.

For reasons we shall have occasion to explain in a subsequent part of this work, the uterus, from the period of the completion of the female form, is stimulated, once in every lunation, to the secretion and elimination of a peculiar fluid, which exhibits the colour, though it is deficient in many of the properties, of blood; and for this purpose the uterine arteries are, at such seasons, peculiarly turgid and irritable. There is hence always a tendency on such occasions to a hemorrhage in this quarter in females of a firm and robust texture, and of a plethoric habit. But if, from cold or any other cause, the uterine secretions do not at these seasons fulfil their office, and throw forth the proper fluid, the uterine arteries will be inordinately gorged; the regular stimulus will be greatly augmented; pain, tension, and spasm will extend over the loins, and the extremities of the vessels be ruptured, or their mouths give way by anastomosis, and a considerable hemorrhage be the consequence.

GEN. II.

SPEC. I.

§ II. Entonica hæmaturia.

Medical treatment.

ε II. Entonica uterina.

Often mistaken for profuse menstrual flux.

Ordinary cause and progress.

known profuse hæmaturia arise from a cancerous disease of the bladder; a case that was remarkable as having been attended with a spontaneous fracture of the left thigh bone and one rib. The particulars have been published in the Trans. of Med. Chir. Society, vol. xvii. M. Andral mentions a very curious example of hæmaturia. (Anat. Pathol., tom. i. p. 339.) It took place in an old woman who had a cancer of the stomach. A fortnight before her death, numerous purple spots appeared on her skin, and a remarkable quantity of blood was daily voided with her urine. Red spots occurred on the conjunctiva, and one of them, rendered very prominent by the blood under it, formed a purple ring round the cornea, like what is observed in chemosis. On opening the body numerous ecchymoses were found in the cellular texture on the outside of the peritonæum and the pleura, on the inside of the cavities of the heart, and in different parts of the alimentary canal. The urinary passages contained a bloody fluid, which might also be pressed out of the manillæ of the tubular substance of the kidneys. No blood was anywhere found, except what was of a purple colour, and quite liquid, without any appearance of coagulum. A similar case is recorded by M. Stoltz. (Archives de Med., tom. xv.) The patient, in the latter instance, was a pregnant woman, and it is curious that ecchymoses, resembling those noticed in most textures of her body, were also found in the lungs, pericardium, heart, and vessels of the fetus. — Ed.



GEN. II.  
SPEC. I.  
§ H. Entonica  
uterina.

Occasionally  
produced by  
other causes.

Has occurred  
in new-born  
infants.

Sometimes  
serviceable, but  
apt to become  
habitual.

Treatment.

Cure by an-  
ticipation.

§ H. Entonica  
proctica.

How produced.

Sometimes a  
symptom of  
piles :  
but not neces-  
sarily so.

This is the ordinary period in which uterine hemorrhage takes place, though it may occur during any part of the interval between the catamenial terms, upon any of the occasional causes that operate upon other organs, and form the preceding varieties ; as it is well known to occur at times, with great violence, during pregnancy and in childbed.

When we come to treat of diseases appertaining to the sexual organs, we shall have to notice some singular cases of precocity in female infants, and especially that of a regular menstruation. It is upon this principle alone that we can account for uterine hemorrhage in new-born infants, of which the medical records give several examples, and especially the Ephemerides of Natural Curiosities.

In suppressed menstruation, uterine hemorrhage affords relief to the spasms and pains that harass the loins, and the headach and difficulty of breathing which have usually preceded the lumbar distress. But the discharge may be immoderate, and become habitual. And it is hence best to be upon our guard, and to use venesection as a substitute, and to prevent or diminish the spasmodic action by gentle aperients and the sedatives already recommended in hæmoptysis, after which the case will become a disease of suppressed menstruation alone, and must be treated according to the method recommended under that malady ; for a restoration of the catamenial secretion is its natural cure. I may observe, however, that, when the suppression of this secretion has been of some standing, and an uterine hemorrhage has periodically taken its place, accompanied with distressing pains in the whole circle of the pelvic region, we can sometimes suddenly restore a healthy action to the organ by a plan of anticipation. For this purpose, I have prescribed venesection about ten days before the return of the monthly paroxysms, and, having thus taken off plethoric impetus, I have, a few days afterwards, recommended the hip-bath to be used in a tepid state every night, and persevered in till the period of relapse ; when I have often found that there has been neither tension nor spasm, that the loins have continued easy, and the hemorrhage has yielded to the natural secretion.

IN HÆMORRHAGE STRICTLY ANAL, the flux of blood issues chiefly from the hemorrhoidal vessels, and, as these are large, and but little supported by any surrounding organisation, they readily give way both in an entonic and atonic state of the frame, and particularly in case of plethora upon very slight excitements, as in straining to expel hardened fæces, taking cold in the feet, or walking a little too far. Irritants introduced by the mouth have also proved a frequent cause of this variety of hemorrhage ; as an injudicious use of aloes, terebinthinate preparations, or even pungent alliaceous sauces. The irritation of piles is also a very common cause, and hence by some writers anal hemorrhage is only treated of as a symptom of that variety of this last disease, which is known by the name of bleeding piles. But this is highly incorrect, as anal hemorrhage often occurs, and very profusely, where no piles have ever been experienced. This power of hemorrhage, when active, as it is called, or in an entonic habit, is usually preceded by a sense of weight and pain within the rectum, and sometimes by a load in the head. And it has often, as already observed, proved critical and salutary, and carried off congestions

from the abdominal viscera. It is, however, peculiarly apt to become profuse, and to establish an order of recurrence, and hence must be overpowered by the reducent and sedative plan, recommended in most of the preceding varieties, and particularly in that of hæmoptysis. The aperients employed, however, should here be peculiarly mild and alterant; and sulphur, which does not readily dissolve in the course of the intestinal canal, and often reaches the rectum in an unmixed state, is one of the best, and is often found strikingly serviceable. All stimulant foods, moreover, must be especially avoided; and the ordinary drink should be water, soda-water, or lemonade.

Here also we are able, as in the case of hemorrhage from the nose, to employ local astringents, though it would be improper to use those that act generally, so long as plethora or an entonic habit continues. The patient may sit in a bidet of ice-water, or water cooled artificially to the freezing point, or may use a cold hip-bath, and have injections of cold water, or astringent lotions, as of alum, zinc, or even lead, thrown up the rectum; the latter of which should be in such proportion as to remain there for half an hour or an hour.

GEN. II.  
SPEC. I.  
ζ II. Entonica  
præctica.  
Precursive  
symptoms.  
Curative  
process.  
Mild aperients.  
Sulphur.

Local astringents when inadvisable.

## SPECIES II.

### HEMORRHAGIA ATONICA.

#### ATONIC HEMORRHAGE.

ACCOMPANIED WITH GENERAL LAXITY OR DEBILITY, AND WEAK VASCULAR ACTION; BLOOD ATTENUATE, AND OF A DILUTED RED.

THOUGH the effect in this species is the same as in the preceding, the proximate cause, as well as the more obvious signs, are directly opposite. The general pathology has been given in the introductory remarks to the genus, and the more common organs from which the hemorrhage proceeds, are the same as already noticed under the preceding species; and hence the varieties of that may be regarded as those of the species before us.

GEN. II.  
SPEC. II.

When plethora is the remote cause, which it often is, it is atonic plethora, or plethora of debility; but whatever has a tendency to loosen or enervate the tone of the solidum vivum, or living fibre, will lay a foundation for this kind of hemorrhage. It is hence a characteristic disease of advanced age, as entonic plethora is of youth and adult life; and often takes place in those, whose vigour is reduced by meagre or innutritious food, close confinement, without exercise, in a foul and stagnant atmosphere, or immoderate indulgence in the pleasures of wine or sexual intercourse. Hence, too, its frequent occurrence, as a symptom, in tabes, atrophy, struma, scurvy, and low fevers.\*

How produced.

Why a characteristic disease of age and of debilitating powers.

\* The more correct principles, on which the fact is accounted for by Andral, are adverted to in some of the notes in the preceding pages. — Ed.

## GEN. II.

## SPEC. II.

Hæmorrhagia  
atonica.α II. Atonica  
narium.β II. Atonica  
hæmoptysis.γ II. Atonica  
hæmatemesis.δ II. Atonica  
hæmaturia.Occurs some-  
times during  
coition.ε II. Atonica  
uteri.ζ II. Atonica  
proctica.Medical treat-  
ment of atonic  
hemorrhage.Blood should  
be abstracted  
with caution.Free use of  
astringents,

The CHARACTERS of the several varieties of this species, as distinguished from those of the preceding, are as follow; for it is not necessary to put the varieties themselves into a tabular form:—

In HEMORRHAGE FROM THE NOSTRILS, the blood flows without heat or headach.

In that from the RESPIRATORY ORGAN, it is usually produced without even the exertion of coughing, and is often accompanied with a scirrhus or calculous affection of the lungs; the countenance is pale and emaciated.

In HEMORRHAGE FROM THE ALIMENTARY CANAL, the blood is discharged without tensive pain: though there must necessarily be an expulsive effort; and, from the inanition hereby produced, some degree of nausea and faintness.

When evacuated by the URETHRA, there is, for the same reason, faintness, but little or no previous pain. The most singular and severe examples of hemorrhages from the urethra are those that have occurred during coition; sometimes intermixed with semen, sometimes instead of it, and sometimes immediately after emission. The individuals have been generally persons of highly irritable and delicate habits; and who have weakened themselves by too free an indulgence in pleasures of this kind. Numerous instances of this sort of hemorrhage are given in the Collections of Medical Curiosities, and especially in several of the German Ephemerides.\*

There is little pain in ATONIC HEMORRHAGE FROM THE UTERUS: and it generally occurs at the natural cessation of the menstrual flux, or within a few years afterwards. As a concomitant, hemorrhage from this quarter is also frequently found in a scirrhus, cancerous, or other morbid states of the uterus, in whatever period of life these may occur; which, however, they do most usually after the age of forty or fifty.

ATONIC HEMORRHAGE FROM THE ANUS ordinarily takes place spontaneously, with little or no pain; but commonly with varices or congestions of the hemorrhoidal vessels, and is very apt to produce a habit of recurrence.

In all these varieties, venesection must be had recourse to sparingly; and never, unless where we have satisfactory evidence of atonic plethora or congestion. It may sometimes be requisite to use the lancet in nasal hemorrhage, for the head may feel oppressed and drowsy: and it will still more frequently be necessary in hemorrhage from the uterus; but the blood extracted should rarely exceed seven or eight ounces; and, in all other varieties, as a general rule, it will be better to withhold our hand, and to proceed at once with a tonic plan of treatment.

Into this plan we may, in the present species, freely admit the

\* The employment of caustic bougies, or the rough introduction of instruments into the urethra, occasionally causes profuse hemorrhage. The editor is attending a man at this time (Nov. 1830), who was cut for the stone in Guy's Hospital about twenty years ago, and who is voiding a considerable quantity of blood from the urethra, in consequence, as he states, of slipping down with his thighs widely and very forcibly separated. Hæmaturia atonica may attend typhus fever, small-pox, and purpura hæmorrhagica. When entirely passive, and unaccompanied by inflammation, the exhibition of turpentine in small doses, from twenty to twenty-five drops, every six hours, should be adopted, and the system supported. — See Elliotson's Lectures delivered at Lond. Univ. in Med. Gaz. for Aug. 1833.



use of general astringents, in conjunction with their local application, however objectionable in the preceding; for a laxity and inelasticity of the fibrous structure are among the chief symptoms we have to oppose: and hence the mineral acids and metallic salts may be had recourse to with great advantage, along with bitters; and with a few exceptions, we cannot well err in the selection. The preparations of iron may be rather too heating in hæmoptysis, and perhaps in all atonic hemorrhages accompanied with much irritability. One of its mildest and best forms is that of a sub-carbonate; and perhaps the best mode of obtaining it in this form is by the celebrated composition of Dr. Griffiths. The myrrh is also in his preparation a useful article for the present purpose, and we shall rarely do better than employ it. In the London Pharmacopæia, it is given under the name of *mistura ferri composita*.

GEN. II.  
SPEC. II.  
Hæmorrhagia  
atonica.  
and other  
tonics.

From the manifest power of opium to restrain most evacuations, it has often been employed in hemorrhages. It does not appear, however, to have any direct effect in checking the discharge; and in atonic hemorrhages, and especially when employed early, has been highly mischievous. But where, in hæmoptysis, there is a perpetual cough from irritation, or in uterine hemorrhages a frequent recurrence of spasmodic pains, it has been tried with considerable success. And the same remark will apply to hyoscyamus, and various other narcotics, which seem to be only useful on the same account.

Opium how  
far useful.

Cinchona, which is peculiarly objectionable in the preceding species, may here be had recourse to with considerable promise. It seems, however, to be chiefly serviceable in uterine hemorrhage, where the disease depends upon a laxity of the extremities of the vessels, which are therefore readily opened by every irritation, applied to the system or to the diseased part. Whether in this case it acts altogether as a bitter, as supposed by Dr. Cullen, or partly also as an astringent, it may be difficult to determine; but the question is not of importance.

Cinchona  
where most  
serviceable.

For other general roborants to which it may be necessary to have recourse, the reader may turn to the treatment of LIMOSIS *dyspepsia*\*, or indigestion: and he may govern the patient's diet and regimen by the general plan there laid down.

The local astringents and refrigerants, already recommended under the former species, may be here employed with even less reserve: and where the bleeding has become chronic, which it is far more likely to do than in atonic hemorrhage, or has been so profuse as very considerably to exhaust the system, a little wine or some other cordial should be administered as soon as we are consulted: for, however small the vessel that is ruptured, its orifice is incapable of contracting from a total loss of tone; and hence a diffusible stimulus gives it the irritation it stands in need of, and forms a salutary constringent. A striking case of this kind has already been given in treating of accidental hemorrhages from extracting teeth†; and it is not long since, that the author was requested to attend in a similar hemorrhage from the nose. The patient was a lady of about fifty years of age, of slender and delicate frame, who had for some years ceased to menstruate. The bleeding had continued incessantly for three or four days, during

Local astringents and refrigerants.  
Stimulants in what way useful.

Illustrated.

\* Class I. Ord. I. vol. i. p. 137.

† Vol. i. p. 44.

## GEN. II.

## SPEC. II.

Hæmorrhagia  
atonica.

Treatment.

which she had been restrained to a very low diet, and allowed nothing but toast and water for her common drink. She was faint, felt sick, and had a feeble pulse, and must have lost many pounds of blood, though no exact measure had been taken. I gave her, instantly, a free draught of negus made with port wine, prescribed camphor mixture with the aromatic spirit of ammonia, had the nostrils syringed with equal parts of tincture of catechu and water, and applied a neckerchief wetted with cold water round the temples, directing it to be renewed every ten minutes. In half an hour the hemorrhage ceased, and, on the ensuing day, I found no other symptom than weakness, for which a nutritious but inirritant regimen was prescribed. A few days afterwards, the hemorrhage returned from sneezing or some other incidental stimulus, and was restrained, as I was told, for I did not see her, by a recurrence to the same plan. I recommended, however, carriage exercise, and an excursion to the sea-coast, which was immediately complied with, and there was no recurrence of the disease.

Further ex-  
emplified.

To effect the same intention, I have occasionally advised cardiacs combined with astringents in hæmatemesis, where the discharge of blood has been profuse, and has continued for some days, and the patient has become considerably exhausted: and I do not recollect an instance in which the plan has proved unfriendly. In like manner, in very great faintness or deliquium produced by a copious and protracted hemorrhage from the uterus, I have had the vagina injected with equal parts of port wine and water acidulated with sulphuric acid, and have found it equally successful.

Acetate of  
lead.

The acetate of lead is also a preparation, which, in all such cases, ought to be tried internally. It was at one time greatly out of favour, from the writings of Sir George Baker, and the concurrent opinion of Dr. Heberden. Of the mischievous effects of various preparations of this metal when employed internally, the former has given numerous examples, and concludes with the following corollary: "that lead taken into the stomach is a poison: I do not say *ex proprietate naturæ et totâ substantiâ*; but which is capable of doing much more hurt than good to the generality of men in all the known ways of using it; and, consequently, that it cannot be avoided with too much caution."\* In corroboration of which Dr. Heberden tells us, that its good effects are by no means so certain as its mischief; and, in most cases, would be far overbalanced by it. In the form of an acetate, however, all its evils seem to be subdued by a combination with opium; for the first distinct knowledge of which the medical world is indebted to the penetration and judgment of Dr. Reynolds, who tried it, in this state of union, in various cases, with the most perfect success, and without the least unfavourable symptom whatever, whether of pain or even costiveness. He also employed with equal benefit the old *tinctura saturnia*, and the sugar of lead: of the former, giving eighteen drops with three drops of laudanum to a dose, and repeating the dose every four hours in a little barley-water; of the latter, giving one grain with three drops of laudanum mixed into a pill with conserve of roses; to be repeated every six hours. And, under both forms, he employed these materials with great and unalloyed ad-

Its evils cor-  
rected by  
opium, as  
proposed by  
Reynolds:

\* Med. Transact., vol. i. p. 311.

vantages in hemorrhages of most sorts, especially uterine, pulmonary, and nasal.\*

Dr. Latham† has since confirmed this practice of Dr. Reynolds in its fullest degree, and even extended its range; and so little inconvenience has he found from the use of the acetate, that he has employed it "in doses of a grain three times a day for six, eight, and ten weeks successively; usually, but not always, combining it with opium or conium; without any other precaution than desiring the patients to obviate any costiveness by oleum ricini or confectio sennæ." He has occasionally given two grains of the acetate as an evening dose; once, in consultation with Dr. Reynolds, five grains; and mentions another case, in which he was concerned, where ten grains a day were taken without any inconvenience. By a mistake for sugar, a young woman, respecting whom he was consulted, swallowed at one time about two drachms of it, yet without any serious evil: the fauces and œsophagus were considerably constricted, and this seems to have been the chief mischief; for the bowels were opened by oleum ricini and other purgatives in the course of the day, and the patient was not at all worse for the accident on the ensuing morning.

Emboldened by these facts, Dr. Latham has employed the same medicine in other diseases in which irritant astringents and tonics seem requisite, as in colliquative diarrhœas and hectic perspirations, and more especially in that semipurulent expectoration which too often terminates in pulmonary ulceration and consumption; and, as he confidently assures us, with great advantage. And he hence concludes, that whatever deleterious properties may appertain to lead in some of its salts and oxides, nothing pernicious exists in its acetate; in the process for which, he conceives it either to be more completely freed from arsenical or other poisonous minerals than in its other forms, or rendered innocuous by the addition of the acetic acid.

It only remains to be added, that where tonic hemorrhage has occurred so profusely, or has continued so long, as to reduce the system to an atonic state, it then becomes a disease of debility, and is to be treated as though originating under the present species.

GEN. II.  
SPEC. II.  
Hæmorrhagia  
atonica.  
Treatment.  
and since by  
Latham:

who has still  
further ex-  
tended its use.

## GENUS III.

### MARASMUS.

#### EMACIATION.

##### GENERAL EXTENUATION OF THE BODY, WITH DEBILITY.

MARASMUS is a Greek term, derived from *μαρᾶω*, "marcesco," "marcescere reddo." It was long ago used collectively to com-

GEN. III.  
Origin and use  
of the term in  
its ordinary  
scope.

\* Med. Transact., vol. lii. art. xiii.

† Vol. v. art. xxi.



GEN. III.  
Marasmus.

prehend atrophy, tabes, and phthisis; and in employing it therefore in the present system as a generic name, we only restore it to its earlier sense. The generic character is common to all these subdivisions; for each is distinguished by a general emaciation of the frame, accompanied with debility, and consequently forms a species to marasmus as a genus.

May be extended, and embrace two other species.

With these species, the reader, however, will now find two others united; *M. ANHÆMIA*, to which I shall advert presently, and *M. CLIMACTERICUS*: the last from a high authority, with which I fully coincide; and which is intended to embody that extraordinary decline of all the corporeal powers, which, before the system falls a prey to confirmed old age, sometimes makes its appearance in advanced life without any sufficiently ostensible cause, and is occasionally succeeded by a renovation of health and vigour, though it more generally precipitates the patient into the grave.

Extenuation or leanness how distinguished from emaciation.

Extenuation or leanness is not necessarily a disease; for many persons, who are peculiarly lean, are peculiarly healthy, while some take pains to fall away in flesh, that they may increase in health and become stronger. But if an individual grow weaker as he grows leaner, it affords a full proof, that he is under a morbid influence; and it is this influence, this conjunction of extenuation with debility, as noticed in the definition, that is imported by the term *MARASMUS*, and its synonym *EMACIATION*.

Waste from diseases of some organs greater than from those of others; as particularly noticed by Pemberton.

It is curious to observe how much more easily the body wastes under a disease of some organs than of others; and it would be a subject of no small moment to inquire into the cause of this, and to draw up a scale of organs effecting this change, from the lowest to the highest degree. Dr. Pemberton, in a work of considerable merit, published many years ago, threw out some valuable hints upon this subject, which it is to be lamented that he did not afterwards follow up to a fuller extent. The following passage is well worthy of notice, and aptly illustrative of what is here intended. "Let us take," says he, "the two cases of a diseased state of the mesenteric glands, and a diseased or scrofulous affection of the breast. In the former, we shall find there is a great emaciation; in the latter, none at all. In an ulceration of the small intestines, great emaciation takes place; in scirrhus of the rectum, none. In a disease of the gall-bladder, which is subservient to the liver, the bulk of the body is diminished; but in a disease of the urinary bladder, which is subservient to the kidneys, scarcely any diminution of bulk is to be perceived. In an abscess of the liver, the body becomes much emaciated; but in an abscess of the kidneys, the bulk is not diminished.

Exemplification.

Causes of this difference explained.

"If we examine into the function of those parts, the diseases of which do or do not occasion emaciation, we may perhaps be led to the true cause of this difference of their effect on the bulk. In order, however, to understand more clearly how the functions of these parts bear relation to each other, it may be necessary to premise, that the glands of the body are divided into those which secrete a fluid from the blood for the use of the system, and those which secrete a fluid to be discharged from it. The former may be termed glands of supply; the latter, glands of waste.

Glands of supply, what.

"The smaller intestines, in consideration of the great number of absorbents with which they are provided for the repair of the

system, may be considered as performing the office of glands of supply. The large intestines, on the contrary, may be considered as performing the office of glands of waste: inasmuch as they are furnished very scantily with absorbents, and abundantly with a set of glands which secrete or withdraw from the system a fluid which serves to lubricate the canal for the passage of the feces, and which itself, together with the feces, is destined to be discharged from the system. The glands which secrete a fluid to be employed in the system, as well as the glands of direct supply, may be considered the liver, the pancreas, the mesenteric glands, perhaps the stomach, and the small intestines; and the glands of waste are the kidneys, breasts, exhalant arteries, and the larger intestines."

The first set are, in fact, the general assemblage of the chylific organs; and it is upon their direct or indirect inability to carry into execution their proper function, that the first of the species we are now about to enter upon, that of *ATROPHY*, is founded in all its varieties. How far these remarks will apply to the other species of the present genus is not quite so clear. The seat of the third and fourth may be doubtful, perhaps variable; that of *PHTHISIS*, or the fifth, admits of no debate. Are the lungs to be regarded as an organ of waste or of supply? The question may be answered in opposite ways, according to the hypothesis adopted respecting the doctrine of respiration. They throw off carbonic acid gas. Do they introduce oxygen or any other vital gas into the circulating system? As an organ of waste, we cannot, upon the principle here laid down, account for the emaciation which flows from a diseased condition of them. If it can be substantiated that they are an organ of supply, they confirm and extend the principle. Will this principle, moreover, apply in dropsy, in which there is even more emaciation than in phthisis? The subject is worth enucleating; but we have not space for it, and must proceed to arrange the five species that appertain to the genus before us:—

1. MARASMUS	ATROPHIA.	ATROPHY.
2. ———	ANÆMIA.	ENSANGUINITY.
3. ———	CLIMACTERICUS.	DECAY OF NATURE.
4. ———	TABES.	DECLINE.
5. ———	PHTHISIS.	CONSUMPTION.

Most of these follow in regular order, as genera or species in most of the nosological arrangements, and are set down as subdivisions of *macies* or *marasmus*. By Dr. Cullen, *phthisis* is regarded as a mere sequel of *hæmoptysis*, upon which we shall have to observe in its proper place; while *atrophia* and *tabes* are given as distinct diseases under the ordinary head, only that for *macies* or *marasmus* he employs *marcores* as an ordinal term. The common distinguishing marks are, that *atrophy* is emaciation without hectic fever; *tabes*, emaciation with hectic fever; and *phthisis*, emaciation and hectic fever coupled with pulmonary disease. And such, with the exception of *phthisis*, is the distinction continued by Dr. Cullen in his *Synopsis*. But, in his *Practice of Physic*, he informs us, that his views upon this subject had undergone a change, not only in respect to the subdivisions or varieties of these two diseases, but as to the diseases themselves. "I doubt,"

GEN. III.  
Marasmus.  
Glands of  
waste, what.

This explanation how far applicable to the species before us:

particularly to *phthisis*.

Arrangements of other nosologists.

Species how specifically distinguished.

GEN. III.  
Marasmus.  
Objection of  
Cullen ;

replied to.

ays he, "if ever the distinction of *TABES* and *ATROPHIA*, attempted in the Nosology, will properly apply ; as I think there are certain diseases of the same nature, which sometimes appear with, and sometimes without fever." \* This is written in the spirit of candour that so peculiarly characterises this great man. But I cannot thus readily consent to relinquish a distinction which has received the sanction of so many observant pathologists, and which appears to me to have a sufficient foundation. It is difficult, undoubtedly, to assign a proper place to all the varieties or subdivisions of these species ; but this is a difficulty common to many other diseases equally ; for we perceive fevers, nervous affections, and those of the digestive organs perpetually running into each other in different varieties, yet we find it convenient to arrange and describe them as distinct diseases. And, with the caution attempted to be exercised in respect to the species before us, I trust, that the reader will not discern a greater transgression of boundary in the present, than in various other cases of general allowance.

## SPECIES I.

### MARASMUS ATROPHIA.

#### ATROPHY.

COMPLEXION PALE, OFTEN SQUALID : SKIN DRY AND WRINKLED :  
MUSCLES SHRUNK AND INELASTIC : LITTLE OR NO FEVER.

GEN. III.  
SPEC. I.  
Origin and  
meaning of  
the specific  
term.

THE specific is a Greek term deduced from  $\alpha$  privative, and  $\tauρέφω$ , "nutrio," and is literally, therefore, *INNUTRITION* : a designation peculiarly significant, as the disease, in all its forms or varieties, seems to be dependent on a defect in the quantity, quality, or application of the nutrient part of the blood ; and thus lays a foundation for the three following varieties : —

- $\alpha$  Inopiæ.  
Atrophy of want.
- $\beta$  Profusionis.  
Atrophy of waste.
- $\gamma$  Debilitatis.  
Atrophy of debility.

Blood innutritious from scarcity or pravity of food.  
Blood deprived of nutrition by profuse evacuations.  
Nutrition not sufficiently introduced into the blood by the chylific organs, or not sufficiently separated from it by the assimilating.

$\alpha$  M. Atrophia  
inopiæ.  
Generic pathology.

In order that the body should maintain its proper strength and plumpness, it is necessary that the digestive organs should be supplied with a proportion of food adequate to the perpetual wear of its respective parts : for this wear, as we all know, produces a waste ; and hence the emaciation sustained by those who suffer from famine, in which there is no food introduced into the stomach, or from a meagre or unwholesome diet, in which the quantity introduced is below the ordinary demand. It is this condition that

\* Vol. iv. part III. book I. sect. MDCXVIII.



forms the first of the subdivisions or varieties, the ATROPHY OF WANT, under which the species before us is contemplated in the present arrangement.

But the ordinary demand may not be sufficient for the body, or some part of it may be in a state of inordinate wear and waste, as in very severe and protracted labour, in which the supply is rapidly carried off by profuse perspiration, or in rupturing or puncturing a large artery, in which the same effect is produced by a profuse hemorrhage. Any other extreme or chronic evacuation may prove equally mischievous, as an excessive secretion from the bowels, from the vagina, from the salivary glands, from the breasts; as where a delicate wet-nurse suckles two strong infants. And hence the origin of the second of the above varieties, or the ATROPHY OF WASTE.

Now, in all these cases, wherever the system is in possession of an ordinary portion of health, there is a strong effort made by the digestive powers to recruit the excessive expenditure by an additional elaboration of nutriment; and the instinctive effort runs through the entire chain of action to the utmost reach of the assimilating powers, or those secretions with which every organ is furnished, to supply itself with a succession of like matter from the common pabulum of the blood. Hence, the stomach is always in a state of hunger, as in the case of famine, profuse loss of blood, or recovery from fever: all the chylific organs secrete an unusual quantity of solvent juices, an almost incredible quantity of food is demanded, and is chymified, chylified, and absorbed almost as soon as it enters the stomach; the heart beats quicker, the circulation is increased, and the new and unripe blood is hurried forward to the lungs, which more rapidly expand themselves for the purpose, to be completed by the process of ventilation: in which state it is as rapidly laid hold of by the assimilating powers of every organ it seems to fly to, and almost instantly converted into its own substance. Such is the wonderful sympathy that pervades the entire frame; and that runs more particularly through that extensive chain of action, which commences with the digestive and reaches to the assimilating organs, constituting its two extremities.

So long as the surplus of supply is equal to the surplus of expenditure, no perceptible degree of waste ensues; but the greater the demand the greater the labour, and the turmoil is too violent to be long persevered in. The excited organs must have rest, or their action will by degrees become feeble and inefficient. And if this take place while the waste is still continuing, emaciation will be a necessary consequence, even in the midst of the greatest abundance; and hence, an explanation of the variety of emaciation before us, constituting the second.

Thus far we have contemplated the animal frame in a firm and healthy constitution: and have supposed a general harmony of action pervading every link of the extensive chain of nutrition, from the digestive organs to the assimilating powers. But we do not always find it in this condition; and occasionally perceive, or think we perceive, that this necessary harmony is intercepted in some part or other of its tenour: that the digestive powers, or some of them, do not perform their trust as they should do, or,

GEN. III.

SPEC. I.

*a* M. Atrophia inopie.

*β* M. Atrophia profusionis.  
Pathological explanation continued.

Excessive expenditure supplied by proportional recruit.

While this continues, there is no extenuation: when otherwise, the present variety is produced.

Pathological explanation continued.

## GEN. III.

## SPEC. I.

β M. Atrophia profusionis.

Illustration of the causes of atony from debility.

γ M. Atrophia debilitatis.

This variety very complex.

Often extended from a point to the whole system.

One extremity of a chain of organs peculiarly sympathetic with another.

Illustrated.

How the organs become primarily affected not always manifest.

Symptoms of infantile or puerile atrophy.

that the assimilating powers, or some of them, exhibit a like default; or, that the blood is not sufficiently elaborated in its course, or becomes loaded with some peculiar acrimony. And hence another cause, or rather an assemblage of other causes, competent to the disease before us.

It is from the one or the other of these sources that we are in most, perhaps in all, cases to derive the third modification of this disease, which is here distinguished, for want of a better term, by that of ATROPHY OF DEBILITY. The disease under this form is often very complex, and it is difficult to trace out what link in the great chain of action has first given way. Most probably, indeed, it is sometimes one link, and sometimes another. But, from the sympathy which so strikingly pervades the whole, we see at once how easy it is for an unsoundness in one quarter to extend its influence to another, till the disease becomes general to the system. Yet I am much disposed to think that the atrophy, so conspicuous in feeble habits, and the feeblest periods of life, as infancy and old age, commences most usually at the one or the other end of the chain, and immediately operates by sympathy on its opposite. This remark is in consonance with a very common law of life, by which impressions are more powerfully and more readily communicated from one extreme of an organ to another, than they are to any of the intermediate points. It is hence the will operates instantly on the fingers, the stomach on the capillaries of the skin; and that the irritation produced by a stone in the bladder is felt chiefly in the glans penis. And hence the close correspondence, which we have already seen to prevail between these two extremities of the nutritive function in the case of want and hunger.

Where atrophy is connected with a morbid state of the digestive organs, we have a little light thrown on the nature of the disease, but not much. For first, indigestion does not necessarily produce this effect, since it is no uncommon thing for dyspeptic patients to become plethoric, and gain, instead of lose, in bulk of body. And, next, the morbid state of these organs may be a secondary, instead of a primary affection, and be dependent upon a general hebetude, or some other unsound condition of the assimilating powers, constituting the other end of the chain; and hence exercising a stronger sympathy over them than over any intermediate organs whatever: as the digestive organs themselves, if the disease should have originated in them, may exercise a like sympathy over the assimilating powers, and hence produce that general extenuation, which, as we have just observed, is not a necessary consequence of dyspepsy. It is at least put, I think, beyond a doubt, that more than one set of organs are connected in the atrophy of debility.

Where this atrophy takes place in infants at the breast, or young children, it is ushered in by a flaccidity of the flesh, a paleness of the countenance, sometimes alternating with flushes, a bloated prominence of the belly, irregularity of the bowels, pendulousness of the lower limbs, general sluggishness and debility, and, where walking has been acquired, a disinclination to motion, with fretfulness in the day, and restlessness at night.

There is at first no perceptible fever, no cough, nor difficulty of

breathing: but if the disease continue, all these will appear as the result of general irritation, and the skin will become dry and heated, and be covered over with ecthyma, impetigo, or some other squalid eruption. The breath is generally offensive; the urine varies in colour and quantity; and, in infants at the breast, the stools are often ash-coloured or lenteric, or greenish, loose, and griping. The appetite varies; in some cases it fails, in others it is insatiable.

Where these symptoms, or the greater part of them, occur to an infant at the breast, it becomes us, in the first place, to be particularly attentive to the manner in which it has been nursed, in respect to cleanliness, purity of air, warmth, and exercise; we have next to turn our attention to the nurse's milk; and afterwards to an examination whether the infant is breeding teeth, or has worms, or there be any scrofulous taint in the blood. For the last we have no immediate remedy; the rest we must correct as we find occasion. And if we have no reason to be satisfied upon any of these points, it may still be advisable to change the milk. It is not easy to detect all the peculiarities of milk that may render it incapable of affording full nutrition: and there is reason to believe, that one infant may pine away on what proves a healthy breast to another. I have given this advice in some dilemmas, and have often found a wonderful improvement on its being followed.

In children on their feet, who are confined to the filth and suffocating air of a narrow cell, the common habitation of a crowded family from Sunday morning to Saturday night; or who are pressed into the service of a large manufactory, and have learnt to become a part of its machinery before they have learnt their mother-tongue; there is no difficulty in accounting for the atrophy that so often prevails among them. The appetite does not here so much fail as the general strength: their meals are, perhaps, doled out at the allotted hours by weight and measure: but still they are falling victims to emaciation; and are affording proof, that air and exercise are of as much importance as food itself; that there are other organs than those of digestion, upon which the emaciation must depend: and that, unless the supply furnished by the food to the blood-vessels be sufficiently oxygenized by ventilation, and coagulated by exercise, the blood itself, however pure from all incidental defect or hereditary taint, will never stimulate the secretions of the various organs to which it travels, to a proper separation of its constituent principles, and a conversion to their own substance.

In all these cases, therefore, the proximate cause seems to be lodged principally in the assimilating powers of the system; and whenever the digestive organs grow infirm also, it is rather by sympathy with the former, than by any primary affection of their own.

There is a singular case of atrophy quoted by Sauvages, to which he has given the name of *lateralis*, and which unquestionably belongs to this variety. It occurred in a young child, and took possession of just one half the body; the left side, from the axilla to the heel, being so completely wasted, that the bones seemed only to be covered with skin, while the right side was fat. Under the influence of topical antispasmodics, and sudorifics continued for

GEN. III.  
SECC. I.  
γ M. Atrophia  
debilitatis.

In infancy the  
remote cause  
often doubtful.

In children  
often less  
doubtful.

Proximate  
cause may  
hence be rea-  
sonably con-  
jectured in  
most cases.

Atrophia  
lateralis of  
Sauvages, what.



## GEN. III.

## SPEC. I.

γ M. Atrophia  
debilitatis.

Symptoms of  
atrophy in old  
age.

Proximate  
cause ex-  
plained.

General mode  
of treatment.

*seven years*, the writer of the account tells us, that he *began* to get better — “*melius habere cæpit.*” \*

In the atrophy of debility, common to old age, the cellular membrane, that is, the part containing, as well as the parts contained, seems rather to shrivel away, in many cases to be carried away by absorption, and the muscular fibres to become dried up and rigid, rather than loose and flabby. In this case, the assimilating powers seem to have done their duty to the last, and, like an empty stomach when loaded with gastric juice in a moment of sudden death, to have preyed upon and devoured themselves: since it is probable, that nearly all the animal oil, and more than half the bulk of the muscles and of the parenchyma of many of the organs, is carried off in the same manner; for that all these are capable of being converted into a like substance is clear, since all of them are transformable into adipocire by a chemical action after death, and into a steatomatous material by a morbid action of the living power, while every other organ continues in good health; and there are many facts that lead to the conclusion that all, under the circumstances before us, are capable of yielding a common substitute for the natural food of the system. Here, therefore, we are to look for the proximate cause of the disease towards the other end of the chain, or among the chylific viscera. And we shall not in general look in vain. Not, indeed, that we shall always, or even commonly, find it in the stomach or in the liver, for the appetite may not fail, though its demand is but small and is easily satisfied; and it probably digests what is introduced into it. Yet here the greater part of the food rests; or rather, most of it passes through the intestines, and very little goes into the lacteals; insomuch, that many of our most celebrated anatomists have thought, as I have already had occasion to observe †, that the mesenteric glands of old people become obliterated; while Ruysch contended, that mankind pass the latter part of their lives without lacteals, and that he himself was doing so at the time of writing.

The mode of treatment needs not detain us. Where the disease depends upon a want of wholesome food, or of food of any kind, the cure is obvious: where upon profuse evacuations, it falls within the precincts of some other disease, and is to be governed by its remedies. And where the cause is an infirm condition of any part of the chain of nutritive functions, from the chylific to the assimilating organs, the same tonic course of medicine that may be advisable in the one case, will be equally advisable in the other. The bowels should be kept in a state of regularity; mercurial alterants may sometimes be required, though less frequently than under one or two varieties of tabes; the different preparations of iodine will often exercise a healthful stimulus, and prove the deobstruent that is stood in need of; the bitters and astringents enumerated under DYSPEPSY may also be had recourse to, according to the peculiarity of the case; and cleanliness, fresh air, exercise, and cold-bathing will complete the rest. The atrophy of old age is to be met by the richest foods, wine, and the warmth of another person sleeping in the same bed.

\* Nos. Med., cl. x. ord. 1. Ex Collect. Acad., tom. iii. p. 693.

† Vol. i. p. 272. Parabysma Mesentericum.

## SPECIES II.

## MARASMUS ANHÆMIA.

## EXSANGUINITY.

FACE, LIPS, AND GENERAL SURFACE GHAISTLY PALE; PULSE QUICK AND FEEBLE; APPETITE IMPAIRED; ALVINE EVACUATIONS IRREGULAR, BLACK, AND FETID, OCCASIONALLY WITH SEVERE GRIPINGS; LANGUOR AND EMACIATION EXTREME.

THE specific name for this disease is sometimes written ANÆMIA, but incorrectly; for the aspirate ought to be retained, and is so, indeed, in common usage, as in *anhæmous*, *vulnerary* or *styptic*, from the same root; *enharmonic*; *errhine*; *cachexy*; *amphemera*; *anthelmintic*. The most striking peculiarity of the affection is, that the bloodlessness of the exterior precisely corresponds with that of the interior; since dissections show that the largest and deepest vessels are nearly as destitute of blood as those on the surface.\* It is in this ghastly pallor of the whole exterior, as directly expressive of the same condition within, that this disease chiefly differs from the atrophy of want, of waste, and of debility, which constitute the different modifications of the preceding species.

The disease itself has often been referred to, and, at times, described, by the old writers, as Becher †, Albert ‡, and Janson §; and still more lately by Hoffman, De Haen, and Isenflamm. Several of their cases, however, are confounded with the different forms of the preceding species, and consist of nothing more than an exhausted state of the blood-vessels, from hemorrhage or other profuse evacuations, in one case, indeed, from hemorrhoids. And hence Lieutaud and Isenflamm undertook, in the middle of the last century, to distinguish the real disease from those which were thus confounded with it; tracing out the separate causes and symptoms, and marking them by different names; as *anæmia chlorosis*, and *anæmia consecutiva*, which were the appellations of Lieutaud ¶; and *a. vera*, and *a. spuria*, which were those of Isenflamm. These distinctions, however, seem to have made less impression on the world of medicine than they ought to have done: for we find M. de Sauvages, in the first edition of his *Nosologia Methodica*,

GEN. III.

SPEC. II.

Anæmia incor-  
rect for  
anhæmia.

Striking fea-  
ture of the  
disease:

and by which  
it differs from  
atrophia.

Has been  
treated of  
formerly: but  
often imprec-  
isely.

Attempts to  
remedy this.

Anæmia  
chlorosis and a.  
consecutiva of  
Lieutaud.  
A. vera and  
spuria of  
Isenflamm.  
Not attended to  
by Sauvages.

\* The blood may be so diminished in quantity, that it seems, during life, to forsake the surface, which is only pervaded (to use Andral's expression) by a kind of erosivity; and, after death, no blood is found, not only in the arterial trunks, great veins, and right cavities of the heart, but in the several capillary networks, all of which seem remarkably pale. In this state, completely destitute of blood, are found all the membranous and parenchymatous tissues, as the brain, the lungs, the liver, the kidneys, the alimentary canal, and the texture of the heart and muscles. See Andral, *Anat. Pathol.*, tom. i. p. 80. — Ed.

† Diss. *Resolutio casûs practici Anæmiæ, Sanguinis miros fructus repræsentanti*. Leid. 1663.

‡ Diss. *De Anæmiâ*. Hall. 1773.

§ Diss. *De Morbis ex Defectu Liquidi vitalis*. Lugd. Bat. 1748.

¶ Robin, *Journ. de Médecine*, tom. xxxii. p. 48.

¶ *Précis de la Médecine Pratique*. 1761.

## GEN. III.

## SPEC. II.

Marasmus  
anhæmia.Chlorosis  
rhachialgica of  
Sauvages.More accuracy  
of late years.

Halle.

Combe.

published subsequently to Lientaud's Summary, following Strach and Ramazzini, in describing anæmia, if, indeed, he has described it at all, as a modification of spurious chlorosis, or pallor, under the name of *chlorosis rhachialgica*. \*

Of late years, however, something more of light, and far more of correct description, have been thrown upon this very extraordinary malady by the contributions of several writers, and particularly of Professor Halle, of Paris, and Dr. Combe, of Edinburgh. Nothing can be more different than the occupations, habits, and modes of life, of two distinct classes of individuals, who are hereby brought forward as the subjects of an hæmia. And yet the close resemblance, and, allowance being made for incidental circumstances, we may say the identity of the symptoms, exhibited, in situations so perfectly unlike, furnish an adequate proof of an identity of disease. †

Illustrated  
from Combe.

The most strictly idiopathic example, and the one most free from influential incidents, is that of Dr. Combe. ‡ The patient was forty-seven years of age; was born in the country; and for the most part had been occupied in agricultural employments: he was married, but without a family; was leading a regular and temperate life; had enjoyed perfect health ever since childhood, and had never been blooded. At the time of his applying to Dr. Combe for advice, he had been unwell for about two months, or something more; his chief complaint having been loss of strength, uneasiness in the head, and a sickly complexion. "I was much struck," says Dr. Combe, "by his peculiar appearance. He exactly resembled a person just recovering from an attack of syncope. His face, lips, and the whole extent of the surface, were of a deadly pale colour: the albuginea of his eye bluish: his motions and speech were languid: he complained much of weakness; his respiration, free when at rest, became hurried on the slightest exertion: pulse eighty, and feeble: tongue covered with a dry fur: the inner part of the lips and fauces nearly as colourless as the surface." His bowels were very irregular, though generally relaxed: the stools very dark and fetid; urine copious and pale: appetite impaired, and latterly a rejection of almost every kind of food; constant thirst; no pain referable to any part, nor any determinable derangement of structure.

Description of  
the disease.

Progress.

These symptoms continued with little variation for about three months, with the exception that, for a short time, he appeared to be improving. Yet, upon the whole, the disorder gained ground; the feeble pulse was easily excited; a copious perspiration followed any exertion; the veins on the arms and neck could be felt on

\* Nos. Med., cl. x. Cachexiæ, ord. vi. Ictericæ, gen. xxxv. — Ramazzini De Morbis Artific., cl. i. ii.

† A general an hæmia may come on without any discoverable cause. Andral noticed its existence in the bodies of several individuals, who died dropsical, and in whom no alteration whatever of the solids could be traced. (Clinique Méd., tom. iii. p. 558, et suiv.) The restriction to a diet not sufficiently nutritious, the habitual respiration of impure damp air, deprived of the sun's influence, and which prevents the elaborating functions of the skin and lungs from being duly performed; a disease that affects the direct or indirect organs of hæmatosis; are the circumstances adverted to by Andral as capable of producing a more or less complete general an hæmia. See Anat. Pathol., tom. i. p. 81. — En.

‡ Case of Anæmia. Transact. of Med. Chir. Soc. of Edin., vol. i. p. 194.



making pressure, but the colour of the blood did not appear through the skin. At one time, an affection of the liver was suspected; at another, from the thirst and great flow of urine, *paruria mellita*; but none of these indications were stationary. Tonics did no service, nor a sea-voyage, which was tried, nor the use of a chalybeate spring. He grew gradually weaker, continued to lose flesh; but, with a strong resemblance to the delusive confidence of phthisis, his spirits remained for the most part undepressed, and he still looked forward to a speedy recovery. Meanwhile all the symptoms were deteriorating, and the constitution was evidently sinking under their pressure. In about six months from the period of his application for relief, the œdema extended over his face and upper extremities, evident marks presented themselves of effusion into the chest, and he died with all the symptoms of hydrothorax.

The body was examined thirty-six hours after death. The waxy pallor of the surface remained unchanged: the subcutaneous fat was scanty, of a pale yellow, and semi fluid. Not a drop of blood escaped on dividing the scalp: the dura mater was pale, presented few vessels, and those empty. The pia mater was equally pale, its blood-vessels contained a pale serum and a considerable quantity of air. The lateral sinuses were moderately filled with a pale fluid blood; the arteries at the basis were empty. The substance of the brain was very soft and pulsatious, mapped with very few vessels. The lungs were of a pale grey, without any marks of gravitated blood. The heart, when cut into, was of a pale colour, and did not tinge the linen when rubbed upon it; it appeared like flesh macerated many days in water. The right ventricle contained a pale coagulum. The left side was wholly empty. The coronary arteries were sound. The inner coat of the aorta was of a fine red colour for some inches, without any turgescence or ossification. All the valves were sound. A considerable moisture bedewed the viscera of the abdomen. The liver was of its proper size and structure, but of a light brown colour; there was no exudation of blood on cutting into its substance. The spleen was the only viscus of its usual colour: it was very soft, and its contents, when pressed, turned out as from a sac. The kidneys were nearly bloodless: the pancreas of a pale reddish hue. The stomach and intestines were perfectly sound, thin, showing no vessels, and transparent. The muscular substance throughout the body was, like that of the heart, very pale, and exuded no blood, but only a pale serum, when cut into. The arteries were universally empty, as were also the jugular, humeral, and femoral veins. The lower cava alone, about the bifurcation, with the exception of the lateral sinuses, contained any appreciable quantity of blood.

Besides these appearances, about three pounds of a lemon-coloured serum was found effused in the thorax, and a considerable ossification, about an inch long, rough and irregular, was traced imbedded in the plicæ of the dura mater near the vertex, being almost the only morbid deviations, with the exception of those that relate to the sanguineous system: the first of which Dr. Combe justly regards as a mere consequence of the disease; while he thinks it may admit of a doubt whether the second had any con-

GEN. III.  
SPEC. II.  
Marasmus  
anæmia.

Fatal termination.

Post-obit  
examination.  
Bloodless  
viscera.

Viscera pale.

Arteries  
empty.

Heart empty.

Veins empty.

Accumulated  
serum of the  
thorax.  
Ossification  
in the dura  
mater.  
The first in  
consequence of  
the disease:

GEN. III.

SPEC. II.

Marasmus  
anhæmia.the second an  
incidental  
growth.Almost total  
exhaustion of  
blood:and the tena-  
city of the  
living principle  
wonderful.Inroad made  
upon the  
general sub-  
stance of the  
frame.Faults chiefly  
in the lacteals  
or digestive  
function.Opinion of  
Ruysch.How applied  
to the present  
facts.

nection with the bloodless state of the system. In truth, it seems to have been an incidental concomitant.

It is impossible to conceive a more total exhaustion of the vital fluid from the entire system, than this singular case presents to us; and instead of wondering at the deadly waxiness of the complexion, the feebleness of the pulse, the utter debility and emaciation which this incarnate ghost must have presented, the greater and almost the only wonder is, how the living principle could so long have remained attached to so exhausted a receiver, and the sensorial power have derived its means of recruit; at a time, too, when all the functions, in the midst of their feebleness, were urged on by the force of the morbid excitement to the performance of double duty: the pulse was quickened; the animal spirits were maintained above the standard of sober health; the peristaltic action, though irregular, for the most part accelerated, the perspiration redundant, and the urine often profuse.

The post-obit examination, while it unveils little or nothing of the proximate cause of the disease, discloses to us most manifestly the inroad that had been made upon the general substance of the frame for the want of a due supply of nourishment, and how completely every organ had been living upon itself, and the whole had been living upon the remnant of the blood almost to its last drop. The fault does not, therefore, so much seem to have been in the secernent system, or assimilating powers, as in the lacteals, or digestive function; in the commencement, rather than in the termination, of the chain.

It was the opinion of Ruysch, as we have lately had occasion to observe, that this commencing part of the catenated organ of supply gradually loses its power with the advance of years, and that, in old age, it entirely ceases to act: so that being himself, at the time of writing, in this very season of life, he conceived he was then living, and had been living for a long period, upon himself: upon such nourishment as the fat, blood, flesh, parenchymia, and even brain, can produce when melted down by the action of the absorbents. And he further conceived that, from the little wear and tear which usually takes place in old age, the flame of life might be kept burning for a considerable term by the fuel hereby supplied; the growing emaciation being a pretty correct measure of the material consumed.

How far such may have been the fact with Ruysch himself, or with any other person in the ordinary advance of life, we need not at present examine: but something very like it appears to have occurred in the extraordinary malady before us. We have seen, that the digestive function was habitually impaired, and that at length food of all kinds was rejected from the stomach; and we shall find by other instances presently, that the stomach, under the influence of this disease, seems to be always, even at its best estate, capricious or fastidious.\* But the lacteals seem to have

\* After speaking of the effects of a scanty quantity of blood in the system, upon the nervous system, respiratory organs, &c., Andral observes, that digestion is likewise disturbed, because, after the stomach has received food, the regular performance of that important function requires that the stomach shall become the seat of sanguineous congestion, which, in persons labouring under anæmia, cannot take place. See Anat. Pathol., tom. i. p. 82. — Ed.



participated in the same infirmity; and to have laboured under an atony or paresis so considerable, though invisible to the eye of the anatomist, as to have transmitted whatever aliment might have been subacted very imperfectly, or not at all, into the course of the circulation. And hence, while the blood actually in existence was perpetually drained off in support of the different organs and their respective functions, a small quantity only of an unelaborated fluid was able to reach the heart and larger arteries, which were, in consequence, pale and empty, or only partially supplied with a thin, watery, and scarcely tinged liquid. And, in confirmation of this idea, we shall find, in the sequel of our examination, that the mesentery, in various instances, gives proof of disturbance, and appears enlarged, even to an external examination, while the hypochondria are free from such affection.

Such then seems to have been the proximate cause, though undeveloped by dissection, if we may be allowed to hazard a conjecture upon a subject involved in so much obscurity. Yet the exciting cause seems still more effectually to elude our penetration: for the constitution of the individual seems to have been strong and hearty, and every thing in his situation, occupation, and habits of life, apparently concurred in promising him a long continuance of health.

In various cases of the disease, however, that have occurred, we have some degree of insight into the occasional, as well as into the proximate cause. And I now particularly allude to the endemic appearance of this complaint at Auzain near Valenciennes, as described by Professor Halle.\*

At Auzain is a large coal-mine, reaching to two or three adjoining villages. It was in one of the galleries of this mine that the complaint made its appearance, and to this it was confined, though no difference had hitherto been detected between the contaminated gallery and the rest. It is of the same depth, being a hundred and twenty fathoms from the level ground, and excavated in the same manner, but is longer, and hence does not so readily admit of an efflux of pure air. Its temperature is 64° Fahrenheit: it exhales an odour of sulphuretted hydrogen gas, which renders respiration difficult. Some caustic mineral, perhaps some metallic salt, appears to be dissolved in the water that drips from the mine, as it produces blains or blisters on any part of the body to which it is applied. Yet the water has been occasionally drunk to allay thirst, and the mine had been worked for eleven years without any such complaint as that before us: and it is hence obvious, that some new combination of vapour, incapable of detection by the senses, had found vent into the atmosphere of the gallery; or some new mineral substance had become dissolved in its percolating water; which had a direct power of loosening and destroying the tone of the restorative system, at the commencement of its chain.

The symptoms, in their general features, were strikingly similar to those we have just described: and seem only to have been modified by the peculiarity of the exciting cause, being often, though by no means always, accompanied from the first with severe

GEN. III.  
SPEC. II.  
Marasmus  
anæmia.

Hence proximate cause brought to light.

Exciting cause still more obscure.

Yet this sometimes penetrable.

Existence of the disease at Auzain.

Description of the mine in the gallery where it occurred.

Symptoms as already described.

\* Journ. de Médecine, Chirurg. Pharm., &c. Par MM. Corvisari, Leroux, et Boyer, tom. ix. p. 3. Paris, An. xiii. See a translation of this in the Edin. Journ., vol. iii. p. 170.



## GEN. III.

## SPEC. II.

Marasmus  
anhæmia.

Sometimes accompanied with  
severe gripings.

Hence suspected by some to be a rhachialgia ;  
but erroneously.

Gripings incidental.

Fifty patients at one time, and the number daily increasing.

An acute and chronic state of the disease.

General symptoms.

Occasional colic.

Four patients selected for trial, and sent to Paris.

gripings, and more violent affection of the abdominal viscera, and hence more rapid in their progress. Dr. Combe is inclined to think from these symptoms, that this disease was not a strict idiopathic an hæmia, but a modification of rhachialgia, the colic of lead or arsenic, and that it is hence more nearly allied to the *chlorosis rhachialgica* of Sauvages, than to the *anhæmia chlorosis* of Lieutaud. But in no instance do I find the back-bone ache, or spine-ache, from which rhachialgia derives its name, and by which, together with an extension of this aching over the upper and sometimes the lower extremities, with a strong tendency to paralysis, it is specifically distinguished. Neither indeed is the colicky pain itself to be regarded as a pathognomonic sign, or necessary attendant : for of the four patients, who were sent for examination and treatment from Auzain to Paris, while two suffered from it, the other two were without any such symptom. Nor did the treatment, usually found most serviceable in rhachialgia, prove of much, if indeed of any, benefit in the an hæmia of Auzain ; so that the medical superintendents, who had at first embraced this idea, found themselves obliged to abandon such a course, and the view of the disease on which it was founded, and to regard it as a direct exemplification of idiopathic an hæmia.

At the time of opening their correspondence with the School of Medicine at Paris, fifty patients, all belonging to the same gallery, had been attacked with the disorder, three of whom had died, and the number of patients was almost daily increasing, notwithstanding that the gallery was at this time shut up. Some of the sufferers had been ill for fifteen, others for twelve, others for eight months : and many were recent cases. It was obvious, however, that those were the most unfortunate subjects, and exhibited the highest degree of severity, who had been attacked while actually employed in the gallery : while those who did not complain till it was closed, passed through it, not indeed with speed, but in a more favourable way. So that the disorder seemed capable of being divided into two distinct states or varieties, an acute and a chronic.

The general symptoms under the former, independently of those of colic, were pallor of skin, great emaciation, weak, feeble, quick, contracted pulse, palpitations of the heart, anhelation, extreme debility, so as to render walking difficult ; bloated countenance, habitual perspiration, especially at night ; stools black or greenish. These symptoms often continued without much change for many months, sometimes for upwards of a year ; when they were united, manifestly from augmented weakness, with headach, frequent faintings, intolerance of light and sound.

Where colic was an accompaniment, there was much griping pain in the stomach and intestines, inflation of the abdomen, and at times, towards the close, purulent stools.

Four patients were selected out of the aggregate body to be sent to the School of Medicine at Paris for examination and advice. They were all young ; their ages being from sixteen to twenty-one : one of them had worked in the mine for six years, the others for ten or eleven ; and as they had all been ill for nearly a twelve-month, it is obvious, that they had been attacked while labouring in the gallery ; and were hence regarded as having received the complaint in its acute state.

We have already observed, that, of these four, two had experienced colicky pains from the first, and two had not been troubled with them. The pulse varied from seventy to a hundred and four strokes in a minute, but the stroke was extremely feeble and scarcely perceptible; the least excitement, moreover, would accelerate it almost beyond the power of counting.

The stomach appears to have been generally capricious; they could relish food if allowed to exercise a choice; but one of them was subject to frequent vomiting; and in all the digestion was manifestly imperfect, as the food was partially discharged with little change, intermixed with black or greenish feces. The mesentery, as we have already observed, seemed considerably enlarged to the touch, but was destitute of pain on pressure: nor did the enlargement extend to any other region.

So extreme was the weakness, that none of these patients were able to walk more than a few steps without palpitation of the heart, and being compelled to sit down, and especially on mounting a staircase. Yet the same delusive hope, the same eparsis, or mental elation, that often accompanies consumption, and appeared, as we have already observed, in Dr. Combe's patient, was generally conspicuous in the cases before us. Even the death of one of them did not seem to destroy this enviable feeling. "We were afraid," says Professor Halle, "lest the melancholy fate of the first patient should have had an influence on the minds of his companions; but we had here no difficulty to encounter. The hope that the opening of his body would put us upon a more successful mode of treatment predominated in their minds, without taking away their regret for his loss." It is thus that we sometimes meet with a few cordial drops intermixed with the bitterest cup of suffering, and enabling the patient to support his trial, not only with composure but with an elevated spirit.

The individual, who thus fell a sacrifice, seems to have been attacked with more than ordinary severity at the very onset of the disease: and was one of those, who had to contend with the pains of colic in addition to the specific symptoms. Mercurial inunction was early tried, but abandoned in a few days, from its being found to augment the pulse and increase the tendency to fever. When he reached Paris, he had been ill for eleven months, having previously been employed in the mine for a period of eight years. He at length gave manifest proofs of hectic fever, the remissions of which became gradually shorter, till at length the fever assumed a continued type. But, though the skin was burning hot, it did not lose its paleness, nor was the slightest blush discernible on the tongue, the lips, or the conjunctiva: a remark which is indeed equally applicable to all the rest. He seems to have sunk under the pressure of debility alone; his most prominent symptoms at last being those of great difficulty of breathing, a feeble and intermitting pulse, and cold extremities.

The appearances on dissection were, as nearly as may be, those of Dr. Combe's patient, as we have already described them. The parenchymatous viscera were all pale, diminished, and shrivelled, with the exception of the heart, which preserved its natural size. Even the spleen, which, in the preceding case, retained its proper colour, and does not seem to have had its size much interfered

GEN. III.

SPEC. II.

Marasmus  
anæmia.Diagnostic  
history.Weakness  
extreme:is ill accom-  
panied with  
delusive hope.

Fatal case.

Appearances  
on dissection as  
already given.

## GEN. III.

## SPEC. II.

Marasmus  
anæmia.

Bloodlessness  
the predominant  
feature.

with, was here of a reduced magnitude, and of the same spongy softness which the preceding case disclosed.

The almost utter bloodlessness of all the vessels, however, formed the predominant feature. "In the three cavities all the vessels, as well arteries as veins, were destitute of coloured blood, and contained only a small quantity of serous fluid. No blood was found in the aorta, as far as its crural subdivisions, nor in the accompanying veins, nor in the system of the hepatic vessels, nor in any of the sinuses of the brain. Upon making a deep incision into the flesh of the thighs, a small quantity of liquid and black blood flowed out; but none issued from a cut in any other part whatever. The flesh of the muscles which cover the thorax was exceedingly red, but that of the extremities much less so. And we are told, that the same destitution of blood which distinguished this case, occurred also in all the other dissections that were made at any time: so that the want of colour in the interior precisely corresponded with that of the surface, and of the whole capillary system. "This condition, therefore," observes M. Halle, "may be regarded as peculiarly dependent on the disease; as exhibiting itself by manifest signs during its entire progress; and as reaching its height when it is on the point of terminating, and has reached its last stage."

Modes of  
treatment.

From the extensive spread of the malady, there was a pretty ample opportunity of putting various plans of treatment to an effective test; and the opportunity was not neglected.

Mercury.

Mercury, as we have already observed, did not seem to answer. Two cases recovered under its use; but, in general, it produced febrile excitement, and hence no credit was given to it even in the instances of restoration.

Emetics, sudorifics, acids, sedatives, tonics, stimulants.

Emetics, sudorifics, acids, sedatives, tonics, and stimulants were all tried simultaneously, or in succession. But by far the most successful, as, indeed, the most rational plan, and that most corresponding with the nature of the proximate cause we have endeavoured to illustrate, consisted in a combined employment of the two last of these classes, stimulant and tonic medicines, with a free use of opium where the tormina required it, and the employment of gentle laxatives on the return of constipation. The best stimulants appear to have been camphor and ether; the best tonics, bark and iron.\* While this plan was continued the patients generally improved in strength, lost their palpitation on walking, and evinced a slight return of colour; and in every instance in which this process was discontinued at too early a period, they appear to have relapsed; and only to have renewed their advantage upon a return to the same treatment. The diet was generous and nutritious, and altogether harmonised with the pharmaceutic intention.

The two last  
classes in combination most  
successful.

Camphor and  
ether, bark and  
iron.

Diet.

\* The subcarbonate, in doses of one or two drachms, three times a day. In the anæmia connected with enlarged spleen, preparations of iron are extremely beneficial. This fact is mentioned by Tomassini, in his Clinical Reports.—Ed.



## SPECIES III.

## MARASMUS CLIMACTERICUS.

*DECAY OF NATURE. CLIMACTERIC DISEASE.*

GENERAL DECLINE OF BULK AND STRENGTH, WITH OCCASIONAL RENOVATION, AT THE AGE OF SENESENCE, WITHOUT ANY MANIFEST CAUSE.

For the ground-work of this species of marasmus, I am entirely indebted to Sir Henry Hallford's elegant and perspicuous description of it in the Medical Transactions. The disease has hitherto never appeared in any nosological arrangement, but it has characters sufficiently distinct and striking for a separate species. In several of its features, it bears a strong resemblance to the marasmus or atrophy of old age, described under the first species: but it differs essentially in the instances which it affords of a complete rally and recovery: and, if the train of reasoning about to be employed in developing its physiology prove correct, it will be found to differ also in its chief seat and proximate cause.

The ordinary duration of life seems to have undergone little or no change from the Mosaic age, in which, as in the present day, it varied from threescore and ten to fourscore years. In passing through this term, however, we meet with particular epochs at which the body is peculiarly affected, and suffers a considerable alteration. These epochs the Greek physiologists contemplated as five; and, from the word climax ( $\kappa\lambda\iota\mu\alpha\kappa\iota$ ), which signifies a gradation, they denominated them climacterics. They begin with the seventh year, which forms the first climacteric; and are afterwards regulated by a multiplication of the figures three, seven, and nine, into each other; as, the twenty-first year being the result of three times seven: the forty-ninth, produced by seven times seven; the sixty-third, or nine times seven; and the eighty-first, or nine times nine. A more perfect scale might perhaps have been laid down; but the general principle is well-founded; and it is not worth while to correct it. The two last were called grand climacterics, or climacterics emphatically so denominated, as being those in which the life of man was supposed to have consummated itself; and beyond which, nothing is to be accomplished but a preparation for the grave.

With the changes that occur on or about the first three of these periods we have no concern at present, and shall hence proceed to that which frequently strikes our attention as taking place about the fourth, or in the interval between the fourth and fifth. This change is of two distinct and opposite kinds, and it is necessary to notice each.

We sometimes find the system, at the period before us, exhibiting all of a sudden a very extraordinary renovation of powers. The author has seen persons who had been deaf for twenty years abruptly recover their hearing, so as in some cases to hear very

GEN. III.

SPEC. III.

Ground-work derived from Sir H. Hallford: and the species new to nosological classification.

Pathology.

Climacterics of the Greek pathologists.

Grand climacterics.

Sudden renovation of power occasionally found in advanced life.

GEN. III.  
SPEC III.  
Marasmus  
climactericus.

acutely: he has seen others as abruptly recover their sight, and throw away their spectacles, which had been in habitual employment for as long a period; and he has also seen others return to the process of dentition, and reproduce a smaller or larger number of teeth to supply vacuities progressively produced in earlier life. Under the genus ODONTIA, in the first class and first order of the present system, several of these singular facts have been already noticed, and examples given of entire sets of teeth cut at this period. That the hair should evince a similar regeneration, of which instances are also adduced in the same place, and of which Forestus affords other examples \*, is, perhaps, less surprising, since this has been known to grow again, and even to change its colour, after death.† But I have occasionally seen several of these singularities, and especially the renewal of the sight and hearing, or of the sight and teeth, occur simultaneously. And hence Glanville spoke correctly when he affirmed that “the restoration of grey hairs to juvenility, and renewing exhausted marrow, may be effected without a miracle.”

Sometimes an  
equally sudden  
decline without  
any manifest  
cause.

On the other hand, instead of a renovation of powers at the period before us, we sometimes perceive as sudden and extraordinary a decline. We behold a man, apparently in good health, without any perceptible cause abruptly sinking into a general decay. His strength, his spirits, his appetite, his sleep, fail equally, his flesh falls away, and his constitution appears to be breaking up. In many instances this is, perhaps, the real fact, and no human wisdom or vigilance can save him from the tomb. But, in many examples also, it is an actual disease in which medical aid and kindly attention may be of essential service, and upon an application of which, we behold the powers of life, as in other diseases, rally; the general strength return; the flesh grow fuller and firmer; the complexion brighten; the muscles become, once more, broad and elastic; and the whole occasionally succeeded by some of those extraordinary renovations of lost powers, or even lost organs, to which I have just adverted.

Subject obscure  
and difficult.

The subject is obscure, and it is as difficult, perhaps, to account for either of these extremes—for the sudden and unexpected decline as for the sudden and singular restoration. That the decline, however, is a real malady, and not a natural or constitutional decay, is perfectly obvious from the recovery. And hence Sir Henry Hallford, in reference to the period in which it occurs, and by which, no doubt, it is influenced, has emphatically denominated it the CLIMACTERIC DISEASE.

Explanation  
of the chief seat  
and proximate  
cause of the  
disease.

Under the first species the author observed, that the great chain of the organs of nutrition extends from the chylific viscera to the assimilating secretions; that these form the ends of the chain; that a powerful sympathetic action runs through the whole: but that this action is more powerful between the one end of the chain and the other, than between any of its intermediate links. He observed farther, that, in the atrophy of old age, the failure of action seems to commence and to be chiefly seated at the chylific

\* Lib. xxxi. obs. 6.

† Eph. Nat. Cur. passim. The growth of the hair after death is a manifest impossibility, unless it be assumed that vascular action, circulation, deposition, and secretion, can continue after the extinction of life. — ED.

or chyliferous end, and that the assimilating secretions exhibit the same failure only afterwards and by sympathy: that the lacteals become generally, and sometimes altogether obliterated, while the assimilating process is supported by an absorption, first of the animal oil deposited in the cellular membrane, then of this membrane itself, and, lastly, of much of the muscular and parenchymatous structure of the general frame. In the disease before us, the reverse of all this seems to take place; and for its origin we must look to the assimilating powers, constituting the other end of the chain. The patient falls away in flesh and strength before he complains of any loss of appetite, or has any dyspeptic symptoms; which only appear to take place afterwards by sympathy. And that the mesentery and lacteals are not paralysed and obliterated, as in the atrophy of old age, is incontrovertible, from the renovation of power and reproduction of bulk that form an occasional termination of the disease.

GEN. III.  
SPEC. III.  
Marasmus  
climactericus.

In watching carefully the symptoms of this malady, when totally unconnected with any concomitant source of irritation either mental or bodily, we shall often perceive that it creeps on so gradually and insensibly, that the patient himself is hardly aware of its commencement. "He perceives," to adopt the language of Sir Henry Hallford, "that he is tired sooner than usual, and that he is thinner than he was; but yet he has nothing material to complain of. In process of time, his appetite becomes seriously impaired; his nights are sleepless, or, if he gets sleep, he is not refreshed by it. His face becomes visibly extenuated, or perhaps acquires a bloated look. His tongue is white, and he suspects that he has fever. If he ask advice, his pulse is found quicker than it should be, and he acknowledges, that he has felt pains in his head and chest; and that his legs are disposed to swell; yet there is no deficiency in the quantity of his urine, nor any other sensible failure in the action of the abdominal viscera, except that the bowels are more sluggish than they used to be."

Description.

Sometimes he feels pains shooting over different parts of the body, conceived to be rheumatic, but without the proper character of rheumatism; and sometimes the headach is accompanied with vertigo. Towards the close of the disease, when it terminates fatally, the stomach seems to lose all its powers; the frame becomes more and more emaciated: the cellular membrane in the lower limbs is laden with fluid; there is an insurmountable restlessness by day, and a total want of sleep at night; the mind grows torpid and indifferent to what formerly interested it; and the patient sinks at last; seeming rather to cease to live, than to die of a mortal distemper.

Such is the ordinary course of this disorder in its simplest form, when it proves fatal, and the powers of the constitution are incapable of coping with its influence. Yet it is seldom that we can have an opportunity of observing it in the simple form, and never, perhaps, but in a patient, whose previous life has been entirely healthy, and whose mind is unruffled by anxiety. For if this complaint, whatever be its cause, should show itself in a person who is already a prey to grief, or care, or mental distress of any kind, or in whom some one or more of the larger and more important organs of the body, as the liver, the lungs, or the heart, has been weak-

Rarely appears  
in a simple  
form;

but mostly connected with  
other affections:



GEN. III.

SPEC. III.

Marasmus  
climactericus.which often  
chiefly aggra-  
vate it; and  
render it fatal.Disease more  
common to  
men than  
women.

Explanation.

Common causes  
of excitement.

Illustrated.

Further il-  
lustrated.

ened or otherwise injured by accident or irregularity, or is influenced by a gouty or other morbid diathesis, the symptoms will assume a mixed character, and the disease be greatly aggravated. It is these accidents, indeed, that for the most part constitute the exciting cause, as well as the most fearful auxiliary, of the disease; for, without such, it is highly probable, that the predisposition might remain dormant; and that many a patient, who falls a sacrifice to it, would be enabled to glide quietly through the sequestered vale of age to the remotest limit of natural life, and at length quit the scene around him without any violent struggle or protracted suffering, with an euthanasia sometimes, though rarely attained, but ardently desired by us all.

Sir Henry Hallford has remarked, that the disease, according to his experience, is less common to women, than to men. The author's own experience coincides with this observation. And we can be at no loss to account for the difference, when we reflect on the greater exposure of the latter, than of the former, to those contingencies which so frequently become occasional causes or auxiliaries, and which, at the period now alluded to, strike more deeply and produce a much more lasting effect, than in the heyday and ebullieney of life.

There are some events, however, that apply equally to both sexes, and which very frequently lead to this affection; as, for instance, the loss of a long-trying and confidential friend; of a beloved or only child; or of a wife or husband assimilated to each other in habits, disposition, general views and sentiments, by an intercourse of perhaps thirty or forty years' standing. This last, as it has occurred to me, is a more marked and more frequent cause of excitement, than any other. I have seen it in some instances operate very rapidly: and have my eye at this moment directed to the melancholy fate of a very excellent clergyman, between fifty and sixty years of age, the father of ten children, who were all dependent upon him, and whose benefice would have enabled him, in all probability, to provide for them respectably had he lived; but who, having lost the beloved mother of his family while lying-in of her tenth living child, was never able to recover from the blow, and followed her to the grave in less than three months.

I have at other times seen the same effect produced as clearly and decidedly, though with a much tardier step, and unaccompanied with any sudden shock. I attended not long since a lady in the Edgeware Road, who died of a consumption at the age of fifty-four. Her husband, though not a man of keen sensibility, had attentively nursed her through the whole of her lingering illness, and had lived happily with her from an early period of life. He was aware of her approaching end, and prepared for it: and, in a few weeks after her disease, seemed to have recovered his usual serenity. Not long afterwards, however, he applied to me on his own account. I found him dispirited, and losing flesh; his appetite was diminishing, and his nights restless, with little fever, and altogether without any manifest local disorder. The emaciation with its accompanying evils nevertheless increased, the general disease became confirmed, and, in about five months, he fell a sacrifice to it.

Occasionally, however, where the climacteric temperament, if I may so express myself, is lurking, a very trivial accidental excitement proves sufficient to rouse it into action. "I have known," says Sir Henry Hallford, "an act of intemperance, where intemperance was not habitual, the first apparent cause of it. A fall, which did not appear of consequence at the moment, and which would not have been so at any other time, has sometimes jarred the frame into this disordered action. A marriage, contracted late in life, has also afforded the first occasion to this change."

It has in some instances followed a cutaneous eruption, of which the ensuing case will afford a very striking example, and show in the clearest colours the general want of tone, which, under this morbid influence, prevails throughout the system.

Most of my readers of this metropolis have heard of, and many of them have perhaps had the pleasure of being personally acquainted with, the late James Cobb, Esq. Secretary to the East India Company, the history of whose life, from his intimate and extensive connection and correspondence with the most brilliant and distinguished characters of the age that have figured either in political or fashionable life, and more especially from his own fine taste and commanding talents, and his unwearied efforts to patronise merit in whatever rank it was to be found, ought not to have been withheld from the world. In November, 1816, this gentleman, then in his sixty-first year, and blessed with one of the firmest and most vigorous constitutions that I have ever known, applied to me for an erysipelatous affection of the face. It was troublesome, and for nearly a fortnight accompanied with a slight fever, and a good deal of irritation. It subsided at length, but left a degree of debility which called for a change of air, and relaxation from public duty. He made a short excursion to France, and returned much improved, but evidently not quite restored to all the strength and elasticity he formerly enjoyed. Insensibly, and without any ostensible cause, he became emaciated, walked from Russell Square to the East India House with less freedom than usual, and found his carriage a relief to him in returning home. His appetite diminished, his nights were less quiet, and his pulse a little quickened. At one time he complained of an inextinguishable thirst, and voided an unusual quantity of urine, so as to excite some apprehension of *paruria mellita*. But the urine evinced no sweetness, and both these symptoms rapidly disappeared under the medical treatment laid down for him. The general waste and debility, however, continued to increase; his natural cheerfulness began to flag occasionally, and exertion was a weariness. At this period, an inflammation commenced suddenly on the left side of the nates, which soon produced a tumour somewhat larger than a goose's egg, and suppurated very kindly. Sir Gilbert Blane and Sir Walter Farquhar were now engaged in consultation with myself, as was Dr Hooper afterwards. It was a doubtful question, what would be the result of this abscess? It might be regarded as an effort of nature to re-invigorate the system by a critical excitement; and, in this view of the case, there was reason for congratulation. But it was at the same time obvious that, if the strength of the system should not be found equal to this new source of exhaustion, and could not be stimulated to meet it, the

GEN. III.  
SPEC. III.  
Marasmus  
climactericus.  
Occasional  
cause some-  
times very  
slight.

Explained by  
a striking  
example.

Gradual and  
desultory pro-  
gress of the  
disease.

Apparent but  
ineffectual  
metastasis.

GEN. III.  
SPEC. III.  
Marasmus  
climactericus.

Disease gradually advances.

Fatal termination.

General medical treatment.

abscess might prove highly unfavourable. The tumour was opened, and about a quarter of a pint of well-formed pus discharged: but the morbid symptoms remained without alteration, and the cavity seemed rather disposed to run into a sinus along the perinæum than to fill up. The opening was enlarged, but no advantage followed: it was evident, there was too little vigour in the system to excite healthy action. The abscess was alternately stimulated with tincture of myrrh, a solution of nitrate of silver, and red precipitate; but the surface continued glassy with a display of pale and flabby granulations that vanished soon after they made their appearance. Mr. Cline was now united in consultation, and concurred in opinion, that the wound was of subordinate importance, and would follow the fortune of the general frame. The issue was still doubtful, for the constitution resisted pertinaciously, though upon the whole the disorder was gaining ground. Yet, even at this time, there was not a single organ we could pitch upon, with the exception of the abscess, that gave indication of the slightest structural disease. The lungs were perfectly sound and unaffected; the heart without palpitation; the mind in the fullest possession of all its powers; the head at all times free from pain or stupor, even after very large doses of opium and other narcotics: the bile was duly secreted; the urine in sufficient abundance; and the bladder capable of retaining it without inconvenience through the whole night. The pulse, however, was quick, the stomach fastidious, and the bowels irregular, sometimes costive, and at others suddenly attacked with a diarrhœa that required instant and active attention to prevent a fatal deliquium. The wound continued on a balance: there was energy enough to prevent gangrene, but too little for incarnation.

A clearer example of the disease before us cannot be wished for, or conceived. Unfortunately, its progress, though retarded by the arms of medicines, was retarded alone. One of the last recommendations was a removal into the country; but Mr. Cobb was now become so debilitated and infirm, that this was found a work of some difficulty, and required contrivance. His Royal Highness the Duke of Sussex, however, being kind enough to accommodate our patient with the use of his easy and convenient sofa-carriage, for as long a period as he might choose, he proceeded without much fatigue to a house provided for him on the borders of Windsor Forest. The distance was now become too considerable for me to attend him statedly, and I visited him but once or twice afterwards. He continued, however, to decline gradually, and, in about a month from the time of his going to Windsor, sunk suddenly under a return of the diarrhœa.

In the progress of this disease, medicine will generally be found to accomplish but little. The constitutional debility must be met by tonics, cordials, and a generous diet: and a scrupulous attention should be paid to such contingencies of body or mind as may form an exciting cause, or aggravate the morbid diathesis if already in a state of activity. Congestions must be removed where they exist, and every organ have room for the little play that the rigidity of advanced life allows to it: and where aperients are necessary, they should consist principally of the warm and bitter roots or resins, as rhubarb, guaiacum, and spike-aloes. In many instances the Bath



water, and in a few, that of Cheltenham, will be also found of collateral use: and especially where we have reason to hope, that a beneficial impression has been made on the disease, and that the system is about to recover itself.

The last remark I shall beg leave to offer, I must give in the words of Sir Henry Hallford himself. If not strictly medical, it is of more than medical importance; and I have very great pleasure in seeing it put forth from so high an authority, and finding its way into a professional volume. "For the rest," says he, "the patient must minister to himself. To be able to contemplate with complacency either issue of a disorder which the great Author of our being may, in his kindness, have intended as a warning to us to prepare for a better existence, is of prodigious advantage to recovery, as well as to comfort; and the retrospect of a well-spent life is a cordial of infinitely more efficacy, than all the resources of the medical art."

GEN. III.

SPEC. III.

Marasmus  
climactericus.

Advantage of a  
patient's being  
able to minister  
to himself.

## SPECIES IV.

## MARASMUS TABES.

## DECLINE.

GENERAL LANGUOR; DEPRESSION OF STRENGTH. AND, MOSTLY,  
OF SPIRITS: HECTIC FEVER.

TABES is a Latin term, of doubtful origin. The lexicographers derive it from the Greek *τάλα*, "macero," varied in the Doric dialect to *τάλα*, — whence Scaliger makes a compound of *ταλίζω*, "macerans vita," "a consuming life, or life of consumption;" and supposes that such a word existed formerly, and that tabes is a derivative from it. This is ingenious, but nothing more. *Tab-co* or *tab-es*, is most probably derived from the Hebrew *טאב* (*tab*), literally "to pine away or consume;" which is the exact meaning of the Latin terms.

GEN. III.

SPEC. IV.

Origin of the  
specific terms  
not hitherto  
clearly ex-  
plained.

Tabes is sufficiently distinguished from atrophy by the presence of hectic fever; from climacteric decay, by the tendency to depressed spirits, as well as its appearing at any age; and from consumption, by the local symptoms of the latter.

How distin-  
guished from  
the other spe-  
cies of the  
genus.

Its ordinary causes are commonly supposed to be an absorption of pus into the blood, or the introduction of some poisonous substance, as quicksilver or arsenic; or a serofulous taint; or an irritation produced by excess in libidinous indulgences; thus laying a groundwork for the four following varieties: —

- a Purulenta.
- 2 Venenata.
- 3 Strumosa.
- 6 Dorsalis.

- Purulent decline.
- Decline from poison.
- Serofulous decline.
- Decline of intemperance.

In the FIRST OF THESE VARIETIES, the absorbed pus may be contemplated as acting the part of a foreign and irritating sub-

a M. Tabes  
purulenta

GEN. III.  
SPEC. IV.  
α M. Tabes  
purulenta.

stance \*, and as acting upon a peculiarity of constitution: but, unless the latter be present, pus will rarely, if ever, be found to produce a tabid frame: for, as already observed under hectic fever, if absorbed pus be capable, independently of idiosyncrasy, of inducing a decline in one instance, it ought to do so in every instance; yet this we know is not the case, since buboes, empyemas, and other apostems and abscesses of large extent, have been removed by absorption, and yet no tabes has accompanied the process. It is said to occur more frequently where an abscess or a vomica is open; in consequence of pus becoming more acrimonious by the action of the air. But this supposition is altogether gratuitous: and where hectic fever accompanies a sore or open abscess, it is more probably from increased irritation on the edges or internal surface of the cavity, as already observed when treating on psoas abscess.

β M. Tabes  
venenata.

IN TABES VENENATA, Dr. Cullen conceives, that one cause of emaciation is produced by an absorption of oil from the cells of the cellular membrane into the blood, for the purpose of inviscating the acrimonious spiculæ of the poisonous substance. This, however, is mere hypothesis, without a shadow of proof; and by far the greater number of poisons that enter the blood, whether by deglutition or inhalation, act by a chemical, rather than by a mechanical power. Let them, however, act as they may, the hypothesis is not necessary to account for the emaciation: for the offensive matter with which the blood is hereby contaminated, is alone sufficient to excite and maintain the hectic; as the hectic is alone sufficient to wear away the strength and substance of the system, and produces the waste. It is a disease, as Scheffler has observed, chiefly common to miners and mineralogists †; and, next to these, is to be found, perhaps, most frequently among the labourers in chemical laboratories.

There are other poisonous irritants which are altogether ingenerate or hereditary, that, by their perpetual stimulation, ultimately produce the same effect; as those of chronic syphilis, cancer, and scurvy.

γ M. Tabes  
strumosa.

A more common cause, however, than any of these, is to be found in a state of the system, which has apparently a very near relation to that of scrofula, though it is difficult precisely to identify them. The VARIETY FROM THIS CAUSE is, hence, frequently treated of under the head of scrofula or struma; but as it is peculiarly connected with a morbid condition of one or more of the organs of nutrition, including those of digestion and assimilation, and is uniformly accompanied with emaciation, irritation, and some degree of hectic fever, it more properly falls within the range of the genus MARASMUS, than that of STRUMA, and constitutes a peculiar variety of DECLINE.

\* Armstrong, Diss. de Tabæ Purulentâ. Edin. 1732. — Pus, when absorbed into the circulation from common abscesses, is thought by Cruveilhier (Anat. Pathol.) to undergo some change by the action of the absorbing vessels on it, which change prevents it from having hurtful effects on the constitution; whereas, if pus be introduced directly into the circulation, without being acted upon by the absorbents, it causes capillary venous phlebitis, visceral abscesses, and severe and fatal consequences; but no disorder resembling what Dr. Good calls tabes purulenta. — Ed.

† Von der Gesundheit der Bergleute. Chemnitz, 1770.

Of all the contaminations that lurk in the blood, and are propagable in a dormant state, that of scrofula shows itself sooner than any of the rest. It is curious, indeed, to observe the different periods of time that hereditary diatheses of a morbid kind demand for their maturity, unless quickened into development by some incidental cause. Scrofula very generally shows itself in infancy; phthisis, rarely till the age of puberty; gout, in mature life; mania, some years later; and cancer still later than mania. Scrofula runs its course first, and becomes dormant, though rarely extinct: phthisis travels through a term of fifteen or twenty years, and if it do not destroy its victim by the age of thirty-eight, generally consents to a truce, and is sometimes completely subjugated. All the rest persevere throughout the journey of life: they may indeed hide their heads for a longer or shorter interval, but they commonly continue their harassings till the close of the scene.

When the strumous taint is excited into action in infant life, it generally fixes itself upon the chylific or chyliferous glands, especially when they are in a weakly state; most commonly upon the mesentery, and to this quarter it often confines itself; insomuch that "I have frequently," says Dr. Cullen, "found the case occurring in persons who did not show any external appearance of scrofula; but in whom the mesenteric obstruction was afterwards discovered by dissection."\* It is supposed by Dr. Cullen, and by most pathologists, that the emaciation is, in this case, produced invariably by an obstruction of the conglobate or lymphatic glands of the mesentery, through which the chyle must necessarily pass to the thoracic duct. That an obstruction thus total may occur is not to be altogether disputed, because the lymph has been found stagnated in its course by such an obstruction of lymphatic glands in other parts; but I have already observed, that it is an interruption of very rare occurrence†; so rare that Mr. Cruikshank affirms, he never saw such a stagnation on the dissection of any mesenteric case whatever. And that scrofulous enlargement of the glands of the mesentery does not necessarily produce a total obstruction, is certain, because children, in whom mesenteric enlargement can be felt in the form of knots protuberating in the abdomen, have lived for a considerable number of years, sometimes ten or twelve, and have at last died of some other disease. And hence, it is perhaps more frequently the hectic fever, kept up by the local irritation of the mesentery, and the scrofulous taint in the blood, that produces the emaciation in this case, than the pressure of a scrofulous infarction.

"The mesenteric decline," says Dr. Young, "is generally preceded by more or less of a headach, languor, and want of appetite. It is more immediately distinguished by acute pain in the back and loins, by fulness, and, as the disease advances, pain and tenderness of the abdomen. These symptoms are accompanied or succeeded by a chalky appearance, and want of consistency in the alvine evacuations, as if the chyle were rejected by the absorbents, and left in the form of a milky fluid in the intestines; and the functions of the liver were at the same time impaired, the natural tinge of the bile being wanting. The evacuations are also some-

GES. III.  
SPEC. IV.

γ M. Tabes  
strumosa.

Different stages  
of morbid  
hereditary  
diatheses.

Scrofulous  
taint in infancy  
chiefly mani-  
fested in the  
mesenteric  
glands.

Disease pro-  
duced by ob-  
struction.  
Cullen's ex-  
planation;  
not satisfactory.

Probably pro-  
duced by irrit-  
ation and  
hectic.

Description.

\* Pract. of Phys., part III. book 1. § MDCVI.

† Vol. i. p. 372. Cl. i. Ord. II. Parabysma Mesentericum.



GEN. III.  
SPEC. IV.  
γ M. Tabes  
strumosa.

Worms often  
found as an  
effect, and  
sometimes  
mistaken for a  
cause.

δ M. Tabes  
dorsalis.

Described by  
the oldest  
writers.

Description of  
Hippocrates.

times mixed with mucus and blood; and are attended by pain, irritation, and tenesmus, somewhat resembling those that occur in a true dysentery. Occasionally, also, there are symptoms of dropsy, and especially of ascites; as if the absorption of the fluid, poured into the cavity of the abdomen, were prevented by local obstacles: the absorbent glands, which are enlarged, being rendered impervious, and pressing also on the lacteals and lymphatics which enter them and pass by them." The appetite is generally good and; often ravenous; probably produced by some remote irritation acting sympathetically on the stomach; as that of the mesentery, or more likely that of the assimilating powers that constitute the opposite end of the chain of nutrient organs, and which, from their morbid excitement, produce a morbid waste, and demand a larger supply than they receive. As worms are easily generated, and multiply in the digestive organs when in a state of debility, they have often been found in a considerable number in this disease, and have sometimes been mistaken for the cause of the malady, instead of the effect.\* Balme gives a case in which they were equally discharged by the mouth and anus.† In the strumous enlargements are occasionally found calcareous concretions; and similar concretions are sometimes discovered in the lacteals and the liver.‡ Where the irritation or inflammation is considerable, the intestinal canal is peculiarly apt to unite in the morbid action, producing, with many of the symptoms we have just noticed, hectic fever, and forming what has often been called the FEBRIS INFANTUM REMITTENS.

The decline from an intemperate indulgence in libidinous pleasures has been denominated *TABES DORSALIS*, from the weakness which it introduces into the back, or rather into the loins. It is a disease of considerable antiquity; for we find traces of it in the oldest historical records that have reached our own day; and it is particularly described by Hippocrates under the name of ΦΘΙΣΙΣ ΝΩΤΙΑΣ §, literally "HUMID TABES," from the frequent and involuntary secretion of a gleety matter, or rather of a dilute and impure seminal fluid. He explains it to be, a disorder of the spinal marrow, incident to persons of a salacious disposition, or who are newly married, and have too largely indulged in conjugal pleasures. He represents the patient as complaining of a sense of fornication, or a feeling like that of ants creeping from the upper part of his body, as his head, into the spine of his back; and tells us, that when he discharges his urine or excrements, there is at the same time a copious evacuation of semen, in consequence of which he is incapable of propagating his species, or answering the purpose of marriage. He is generally short-breathed and weak, especially after exercise: he is sensible of a weight in his head, his memory is inconstant, and he is affected with a failure of sight, and a ringing in his ears. Though without fever at first, he at length becomes severely feverish, and dies of that variety of remittent which the Greeks called *leipyria*, a sort of *causis* or ardent fever attended with great coldness of the extremities, but with a burning fire and intolerable heat within, an insupportable anxiety

\* Chesneau, lib. v. obs. 27.

† Journ. de Méd., 1790. Sept., No. i.

‡ Histoire de l'Académie des Sciences, &c. 1684.

§ Περί τῶν ἐθνῶν Παθῶν. Opp. p. 539, as also Περί Νουσῶν n. Opp. p. 479.

and unconquerable dryness of the tongue. This description is fully confirmed by Professor Frank in his history of the miserable condition of two young men who had induced the same disease by a habit of self-pollution, one of whom, together with extreme emaciation, suffered excruciating pains in every limb from head to foot, was incapable of standing, and subject to epileptic fits; while the other, after a long career of acute suffering in various ways, was at length seized with a hemiplegia.\*

From this sketch it is obvious, that the disease is one of great danger, though it is occasionally combated with success. In the Hôpital des Enfants Malades at Paris, the fatal cases are calculated by M. Guersent, one of the physicians to the establishment, at from five to six in every hundred of boys, and from seven to eight in every hundred of girls, whose names enter in the tables of mortality.† Upon the treatment, we shall offer a few remarks towards the close of the species.

Dr. Cullen does not think that the quantity of seminal fluid, discharged by undue indulgence, can ever be so considerable as to account for this general deficiency of fluids in the body, and the debility that accompanies it, and adds, that we must therefore seek for another explanation of these evils. "And whether," says he, "the effects of this evacuation may be accounted for either from the quality of the fluid evacuated, or from the singularly enervating pleasure attending the evacuation, or from the evacuation's taking off the tension of parts, the tension of which has a singular power in supporting the tension and vigour of the whole body, I cannot positively determine; but I apprehend that, upon one or other of these suppositions, the emaciation attending the *tabes dorsalis* must be accounted for."‡

It is not difficult to trace this result in a less doubtful and more direct way. The sexual organs, both in males and females, have a close and striking sympathy with the brain. Morbid salacity is no uncommon cause of madness, as we shall have occasion to observe hereafter. Irritation of the uterus, shortly after child-birth, is a still more frequent cause of the same mental affection. The testes are not capable of secreting their proper fluid till the sensorial organ has acquired, or is on the point of acquiring, maturity, so that both become perfect nearly at the same time; the mere apprehension of failure, when in the act of embracing, has at once, in a variety of instances, unnerved the orgasm, and prevented the seminal flow so effectually that the unhappy individual has often required many weeks or even months before he could recover a sufficient confidence to render the operation complete; while, as Dr. Cullen has correctly observed, the evacuation itself, even when conducted naturally, produces a pleasure of a singularly enervating kind. It is in truth a shock that thrills through all the senses; and hence, in persons of an epileptic temperament, has been known, as we shall have occasion to observe more fully hereafter, to bring on a paroxysm while in the act of intermunion.

It is hence easy to see, that an immoderate excitement of the generic organs, and secretion of seminal fluid, must weaken the

GEN. III.  
SPEC. IV.  
§ M. *Tabes dorsalis*.  
Confirmed by Frank.

Waste of seminal fluid, not a cause, as conjectured by Cullen.

but explicable in a more direct way.

Sexual organs closely sympathise with the brain.

Hence sensorial power weakened.

\* De Cur. Hom. Morb. Epit., tom. v. p. 259.

† Dict. de Médecine, art. *CARRÉAU*.

‡ Pract. of Phys., part III. b. 1. § MDCC.

GEN. III.  
SPEC. VI.  
§ M. Tabes  
dorsalis.

ed by immoderate indulgence :

and particularly  
by chronic and  
involuntary  
emission.

Exemplified.

General medical  
treatment.

Treatment of  
purulent  
decline.

Treatment of  
decline from  
poisonous in-  
halations.

sensorial powers even at their fountain ; and consequently that the nervous and muscular fibres throughout the entire frame, and even the mind itself, must be influenced by the debility of the sensorium. This we might suppose, if there were no chronic flux from the seminal vessels. But when we consider the effect often produced on the general frame by the discharge, or rather the irritation of a single blister ; or, which is perhaps more to the purpose, of a small seton or issue, we can be at no loss to account for all the evils that haunt the worn-out debauchee, and especially the self-abuser, from involuntary emissions of a seminal fluid, however dilute and spiritless, in connection with the dreadful debility we have just noticed, and which is the cause of this emission. The nervous irritation, which results from this debility, is the source of the hectic by which the miserable victim is devoured : and hence, the heavy terrors and insupportable anxiety, corporeal as well as mental, the sense of fornication and other phantasms, the flaccidity of the back and loins, the withering of the entire body, the constant desire of erection, with an utter inability of accomplishing it, which haunt him by day and by night, and throw him into a state of despondency. A fearful picture, which cannot be too frequently before the eyes of a young man in this licentious metropolis, in order to deter him from plunging into evils to which he is so often exposed.\*

Even where sexual inability has not taken place, the system, by an habitual excess of libidinous indulgence, is not unfrequently roused and kept up to such a state of excitement as to produce hectic fever, and great debility, or other derangement of the spinal cord. Of this we shall hereafter have to give a most appalling example† in a young debauchee, who, at the age of forty-five, fell a sacrifice chiefly to this enervating propensity, after refusing to take the warning that a constitution, naturally feeble and rachetic, was well calculated to offer ; but which might, by care and prudent nursing, have held out to the ordinary term of old age. The upper limbs were, for years before his death, motionless and rigid ; and the spinal marrow, through a considerable portion of its length, was found disorganised and liquefied.

Much of the medical treatment, it may be proper to pursue, has been anticipated in several of the preceding species.

The first variety, in which the decline is dependent on the stimulus of an abscess or sore, or the introduction of pus into the circulation, can only be cured by a cure of the local affection. The strength may in the mean while be supported by a course of inirritant tonics, as cinchona and the mineral acids, nutritious diet, gentle exercise, and pure air. And, if stimulants be at any time employed with a view of acting more directly on the morbid irritation, and changing its nature, they should be limited to the milder resins, as myrrh, or the milder terebinthines, as camphor, and balsam of copaiba.

In decline from the inhalation of metallic or other deleterious vapours, if Dr. Cullen's hypothesis were established, that the emaciation is the mere result of the vis medicatrix naturæ, and

\* Lewis's Essay upon the Tabes Dorsalis. Lond. 1758. — Brendal, Diss. de Tabes Dorsali. Goett. 1748. — Swediaur, vol. i. p. 231. Spermacrasia Asilhen ca.

† See Paraplegia, vol. iii. Cl. iv. Ord. iv. Gen. viii. Spec. vi.



produced by an absorption of oil from the cellular membrane for the purpose of sheathing the minute glands of the poison, it would be our duty to follow up this indication, and employ inviscating demulcents, both oils and mucilages. But this practice has rarely been productive of any success: and we have much more reason to expect benefit from a use of the alkalies, which, by uniting with the metallic salts, if they still exist in the circulation, may disengage their acid principle, reduce the metallic base to a harmless regulus, and, by the new combination hereby produced, form a cooling, perhaps a sedative neutral. The first step, however, is to remove the patient from the deleterious scene to an atmosphere of fresh air, then to purify the blood, whether we employ the alkalies or not, with alterant diluents, as the decoction of sarsaparilla, and afterwards to have recourse to bitters, astringents, and the chalybeate mineral waters.

In strumous decline, the mode of treatment should run precisely parallel with that for most of the species of PARABYSMA, or VISCERAL TURGESCECE, already laid down under their respective heads, and particularly with that for mesenteric parabysma, to which the reader may turn.\*

In the treatment of *tabes dorsalis*, or decline from intemperate indulgence, our attention must be directed to the mind as well as to the body: for it is a mixed complaint, and each suffers equally. A summer's excursion with a cheerful and steady friend, into some untried and picturesque country, where the beauty and novelty of the surrounding scenery may by degrees attract the eye, and afford food for conversation, will be the most effectual step to be pursued if the symptoms be not very severe. The hours should be regular, with early rising in the morning, the diet light, nutritive, and invigorating, and a little wine may be allowed after dinner; since it will almost always be found that the patient has too freely indulged in wine formerly; and he must be let down to the proper point of abstinence by degrees.† The metallic tonics will commonly be found of more use than the vegetable, with the exception of iron, which is generally too heating: though the chalybeate waters may be drunk, if sufficiently combined with neutral salts. The local cold bath of a bidet should be used from the first, and afterwards bathing in the open sea.

If the disease have made such an inroad on the constitution that travelling cannot be accomplished; if the mind be overwhelmed, the back perpetually harassed with pain and feebleness, and the nights sleepless with hectic sweats and a frequent involuntary discharge, two grains of opium, or more if needful, should be taken constantly on going to bed; diluted acids, vegetable or mineral, should form the usual beverage, and a caustic be applied to the loins on each side. Hippocrates recommends the actual cautery, and that it should descend on each side of the back, from the neck to the sacrum. Savine-bougies have been prescribed by some writers as a topical stimulus; but a bidet of cold water is preferable; with injections of zinc or copper, at first not rendered very astringent, but gradually increased in power.

GEN. III.  
SPEC. IV.  
Marasmus  
tabes.

Treatment of  
strumous de-  
cline.

Treatment of  
decline from  
intemperate  
indulgence.

\* Vol. i. p. 371. Cl. i. Ord. ii.

† See Wichmann, De Pollutione Diurna, frequentiori, sed rariu, observata, Tabescentiæ causa. Goett. 1782.

SPECIES V.  
MARASMUS PHTHISIS.  
CONSUMPTION.

COUGH: PAIN OR UNEASINESS IN THE CHEST, CHIEFLY ON DE-  
CUMBITURE: HECTIC FEVER: DELUSIVE HOPE OF RECOVERY.

GEN. III.  
SPEC. V.

Arrangement  
and subdivi-  
sions of Cullen

CONSUMPTION, or PHTHISIS, as it is sometimes called by old medical writers, is by Dr. Cullen contemplated as nothing more than a sequel of hæmoptysis, instead of being regarded as an idiopathic affection; and his species, which are two, can only be viewed, and so appear to have been by Dr. Cullen himself, as separate stages in the progress of the complaint; his first species being denominated *phthisis incipiens*, and characterised by an absence of purulent expectoration; and his second, *phthisis confirmata*, distinguished by the presence of this last symptom.

unsatisfactory :  
but resulting  
from the  
shackles of his  
classification.

This, however, is a very unsatisfactory as well as a very unscientific view of the subject, and evidently betrays the trammels of Dr. Cullen's classification; since he seems only to have placed the disease in this position because he could find no other to receive it: for he admits, in his First Lines, that, "phthisis arises also from other causes besides hæmoptysis."\* No man of experience can doubt, that phthisis occurs, or at least commences, more frequently without hæmorrhage from the lungs than with it, and consequently that hæmoptysis ought much rather to be regarded as a symptom or sequel of phthisis, than phthisis of hæmoptysis.

Hæmoptysis  
rather a sequel  
than a cause  
of phthisis.

"Hæmoptysis," observes Dr. Young, in a work that has the rare advantage of combining great research and learning, comprehensive judgment, and a study of the present disease in his own person, "is usually enumerated among the exciting, or even among the more remote causes of consumption; but, in a healthy constitution, hæmoptysis is not materially formidable; and it is conjectured that, when it appears to produce consumption, it has itself been occasioned by an incipient obstruction of a different kind."† So that, on a concurrence of the two, we may commonly adopt the opinion of Desault, and call it an hæmoptysis from consumption, rather than a consumption from hæmoptysis."‡

Of the three varieties we are about to describe, we shall find hæmoptysis a frequent cause of the second, but rarely of either of the others. These varieties I have taken from Dr. Duncan's valuable "Observations" on consumption: they are evidently drawn from a close and practical attention to the disease, and are as follow:—

\* Part 1. book iv. ch. 1. sect. DCCCLII.

† Treatise on Consumptive Diseases, p. 45.

‡ Sur les Maladies Vénériennes, la Rage, et la Phthisie, &c. 12mo. Bord. 1733.

α Catarrhalis.	Catarrhal consumption.
β Apostematosa.	Apostematous consumption.
γ Tubercularis.	Tubercular consumption.*

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

In the FIRST VARIETY, the cough is frequent and violent, with a copious excretion of a thin, offensive, purulent mucus, rarely mixed with blood; generally soreness in the chest, and transitory pains shifting from side to side. It is chiefly produced by catching cold, or the neglect of a common catarrh.†

α Distinctive  
signs of M.  
Phthisis  
catarrhalis, or  
catarrhal con-  
sumption.

In the APOSTEMATOUS VARIETY, the cough returns in fits, but is dry: there is a fixed, obtuse, circumscribed pain in the chest, sometimes pulsatory; with a strikingly difficult decumbiture on one side; the dry cough at length terminates in a sudden and copious discharge of purulent matter, occasionally threatening suffocation; the other symptoms being temporarily, in a few rare instances, perhaps, permanently, relieved.

β Distinctive  
signs of M.  
Phthisis  
apostematosa,  
or apostematous  
consumption.

In the TUBERCULAR VARIETY, the cough is short and tickling; and there is an excretion of the watery whey-like sanies, sometimes tinged with blood; the pain in the chest is slight; and there is mostly an habitual elevation of spirits. Usually the result of a scrophulous diathesis.

γ Distinctive  
signs of M.  
Phthisis  
tubercularis, or  
tubercular  
consumption.

In Dr. Duncan's observations, consumption or phthisis is introduced as a genus, and consequently the varieties, now offered, are reckoned as so many species; yet as the tubercular may run into the apostematous variety, and the catarrhal into both, according to the peculiarity of the constitution, and other concurrent circumstances, and more especially as a common cause may produce all of them in different idiosyncrasies, the present subdivision will perhaps be found the most correct.

Dr. Wilson Philip has formed another variety (with him species) of consumption, to which he has given the name of *Dyspeptic Phthisis*, and which he supposes to be produced by a previously diseased state of the digestive organs, in which the lungs ultimately participate. "Drunkards," says he, "at that time of life which disposes to phthisis, frequently fall a sacrifice to this form of the disease; and those who have been long subject to severe attacks of dyspepsia, and what are called bilious complaints, are liable to it.—What is the nature of the relation observed between the affection of the lungs, and that of the digestive organs in this species of phthisis? Is the one a consequence of the other, or are

Dyspeptic  
phthisis of  
Philip, what.

\* The editor prefers considering no case as true phthisis, that is not accompanied with tubercles. If once this criterion be deviated from, the pathologist is obliged to confound diseases, which have not the slightest analogy to one another. Chronic catarrh may partially resemble phthisis in symptoms; but its nature is totally different, and this, notwithstanding it may sometimes even lead to the production of tubercles, or real consumption, where the constitution is so disposed. As for apostematous consumption, it is only a particular stage of the tubercular. With respect to the species described by Bayle, under the name of *granular, ulcerous, calculous, cancerous*, and *with melanosis*, Laennec observes, that the first is a mere variety of the tubercular; the third is a partial gangrene of the lungs; and the three others are affections, which have nothing in common with tubercular phthisis, except that they have their seat in the same organ. See Laennec on Dis. of the Chest, &c. 2d edit. p. 272, tr. by Forbes.

† Histoire des Phlegmasies, ou Inflammations Chroniques, fondée sur les Nouvelles Observations de Clinique, et d'Anatomie Pathologique, &c. Par F. J. V. Broussais, Doct. en Méd. &c. tom. i. Paris, 1808.



GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

they simultaneous affections, arising from a common cause? They are not simultaneous affections, for the one always precedes the other. In by far the majority of cases, in which both the lungs and digestive organs are affected, the affection of the digestive organs precedes that of the lungs. In some instances, we find the affection of the lungs the primary disease; but, in these, the case does not assume the form above described, but that of simple phthisis; and the hepatic affection, which is always the most prominent feature of this derangement in the digestive organs, does not show itself till a late period of the disease, and then little, if at all, influences the essential symptoms." \*

These remarks show clearly, that dyspeptic phthisis is a sequel of a prior disorder, rather than an idiopathic affection; and, as such, needs not be pursued further in describing the present species. If it outlast the primary malady, or this disease, as is sometimes the case, is converted into it, the digestive organs recovering health, and the lungs appearing to concentrate the morbid action in themselves, it is then reduced to a case of simple or idiopathic phthisis of the one or the other of the varieties now offered.

Subdivisions  
of Bayle:  
of Portal:

It would, however, be tedious, and of no practical use, to notice the different ramifications into which consumption has been followed up by many pathologists. Among modern writers, more especially, it has been very unnecessarily subdivided: thus Bayle gives us six species, derived from supposed organic causes †, of most of which we can know nothing till the death of the patient; Portal fourteen ‡, the first two of which, the serophulous and plethoric, are peculiarly entitled to attention, while the rest are drawn from other diseases with which it is often complicated, or of which it is a sequel. In Morton and Sauvages, the divisions and subdivisions are almost innumerable. The Greek pathologists are not chargeable with the same error; for in general they treat of the disease under two branches alone, phthisis and phthoe: the first importing abscess of the lungs, or the apostematous variety of the present classification; and the second, ulceration of the lungs, embracing perhaps the greater part of the other two. The terms are those of Hippocrates, and they are thus interpreted by Aretæus. §

of Morton and  
Sauvages:

Phthisis and  
phthoe of the  
Greeks.

Tubercular  
variety by far  
most frequent.

Of the varieties here noticed, by far the most frequent is the TUBERCULAR; concerning which it is necessary to offer an explanation, as the term TUBERCLE has been used in very different senses by different writers, and as the morbid change it imports has been derived from very different sources.

Meaning of  
the term  
explained.

Tuber:  
phyma:  
papulae;  
vesicles;  
hydatids.  
Tubercles  
found in every  
organ, and of  
every kind.

The term considered etymologically, is a diminutive of *tuber*, a bump or knot of any kind; in the present work PHYMA ||: and has hence been conveniently applied to minute prominences generally: though, when accompanied with inflammation, they are usually called *papulae* or pimples, and when filled with a limpid fluid, vesicles: and if the vesicles, or rather the vesicular cysts, be supposed to possess an independent, or animalcular life, hydatids.

There is not an organ of the body but is capable, as well in its

\* Trans. of Medico-Chirurg. Soc., vol. vii. p. 499.

† Recherches sur la Phthisie Pulmonaire. Par. 1810.

‡ Observations sur la Nature et le Traitement de la Phthisie Pulmonaire, 2 tom. 8vo. Paris, 1809.

§ Morb. Chron., i. 10.

|| See vol. ii. p. 48.

substance as its parenchyma, of producing tubercles \* of some kind or other; and occasionally of almost every kind at the same time; for Bonet, Boerhaave, and De Haen, as well as innumerable writers in our own day, have given striking examples of clusters of cystic tubers, or enlarged tubercles, of every diversity of size, existing both in the abdomen and in the thorax, formed in the interior of their respective viscera, or issuing from the surface of their serous membranes, some of which are filled with a limpid fluid, others with a gelatinous, a mucous, or a puriform; and others again with a cheesy, pulpy, or steatomatous mass.

It is not improbable, that even a certain degree of inflammation itself is often favourable to the growth and general spread of tubercles. In their origin, they seem to be single cysts, or often perhaps single follicles, but as they enlarge, the interior is at times divided by reticulations of vessels, or membranous bands, or distinct cells, thus exhibiting almost every variety of the animal structure; while the external tunic usually becomes stouter, sometimes duplicate, and at times cartilaginous. †

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Tubercles  
probably fa-  
voured by some  
degree of in-  
flammation.

Rise from a  
single cyst or  
follicle.

\* In whatever organ the formation of tuberculous matter takes place, "the mucous system, if constituting a part of that organ, is, in general, either the exclusive seat of this morbid product, or is far more extensively affected with it, than any of the other systems or tissues of the same organ." (See Carswell's *Illustrations of the Elementary Forms of Disease*, fasc. 1.) In the lungs he exhibits the tuberculous matter formed on the secreting surface, and collected within the air-cells and bronchi; in the intestines, within the isolated and aggregated follicles; in the liver, within the biliary ducts and their extremities; in the kidneys, within the infundibula, pelvis, and ureters; in the uterus, within the cavity of that organ and Fallopian tubes; and, in the testicle, within the tubuli seminiferi, epididymis, and vas deferens. The formation and subsequent diffusion of tuberculous matter are also described, by Dr. Carswell, as taking place likewise on the secreting surface of serous membranes, particularly the pleura and peritoneum, and in the numerous minute cavities of the cellular tissue. The accumulation of it in the lacteals and lymphatics, both before and after they unite, to form their respective glands, he finds to be often very considerable. Dr. Carswell has also given representations of tuberculous matter in the substance of the brain and cerebellum, in accidental cellular tissue, and in the blood; and adverts to its occasional formation in accidental products. — *En.*

† Some of the opinions here delivered, are not universally admitted; the productions, to which several pathologists now restrict the name of tubercle, being, in fact, less diversified than those described in the text. Thus Andral defines those of the lungs to be of a pale yellow colour, mostly of a globular form, and of infinitely various sizes; at their commencement firm, but brittle; afterwards softening; and, in a later stage, changing into a substance which is not homogeneous, but consists of whitish friable masses, suspended in a sero-purulent fluid. (*Anat. Pathol.*, tom. i. p. 408.) The round form of the tubercular substance, is considered by Professor Carswell as quite an accidental circumstance. The tubercle assumes the form of a shut or open globular sac, if confined to the secreting surface, and of a solid globular tumour of various sizes, if it fills completely the cavity of the air-cells; and, for similar reasons, it presents in the bronchi a tubular or cylindrical form, having a ramiform distribution, terminated by a cauliflower arrangement of the air-cells. In the mucous follicles, its shape is similar to that which it receives from the air-cells. The granular arrangement of tuberculous matter in the lungs, is ascribed, by Dr. Carswell, to its accumulation in contiguous cells; and the lobular character, to its being confined to the air-cells of a single lobule. (See *Illustrations of the Elementary Forms of Disease*, fasc. i.) Their derivation from obstructed follicles and inflammation, are doctrines which Andral, as well as Laënnec, rejects, as a general proposition, which, indeed, in relation to inflammation as a cause, it is right to say, the words of Dr. Good would by no means countenance. The sequel of the text will show, that,

## GEN. III.

## SPEC. V.

Marasmius  
phthisis.

In many cases the cysts or niduses of tubercles possess so little energy of action \*, as never to exceed the size of small shot, or to consist of more than an insipid fluid, rendered glairy or caseous by an absorption of the finer particles of the material effused or secreted †; but which, by being united with a few corpuscles of

on this point, he inclined to the opinion of Bichat. In the text, however, cysts of nearly every kind, simple and complicated, with fluid, fatty, or fleshy contents, and contents of various other sorts, are all comprised under the term; a view not adopted at the present time, when so much light has been thrown upon the subject by the researches of MM. Lombard, Laennec, Andral, Armstrong, Cruveilhier, Carswell, and other distinguished cultivators of morbid anatomy. Although a tubercle assumes different appearances in its different stages, its transformations are less numerous than Dr. Baron and M. Dupuy (*Traité de l'Affection Tuberculeuse*, 8vo. 1817), imply in the hypothesis which they maintain, that a tubercle is at first a transparent vesicle, or hydatid. The following is Dr. Carswell's definition of tubercle, or rather of the tuberculous matter, which constitutes the essential anatomical character of those diseases to which the term tubercular is now *exclusively* restricted. Tuberculous matter, says he, is a pale yellow, or yellowish-grey, opaque, unorganised substance, the form, consistence, and composition of which, vary with the nature of the part in which it is formed, and the period at which it is examined. He describes it as an unorganised secretion, or as a cheesy looking material without any trace of organisation. When the process of softening takes place in tuberculous matter, it is clear, as Dr. Carswell observes, that the change cannot originate in the inorganic substance itself. "After having become firm, it may be converted into a granular-looking pulp, or pale grumous fluid of various colours, from the admixture of serosity, pus, blood, &c. which have been effused or secreted by the tissues subjected to its irritating influence. The pus and serosity pervade the substance of the tuberculous matter, loosen and detach it. These changes are further promoted by atrophy, ulceration, or mortification of the surrounding or enclosed tissues, the blood-vessels of which have been compressed or obliterated by the tuberculous matter." Dr. Carswell considers the doctrine, that the softening of tubercles always begins in their centre, as extremely incorrect. According to his researches, when tuberculous matter is formed in the lungs, it is generally contained in the air-cells and bronchi. "If, therefore, this morbid product is confined to the surface of either, or has accumulated to such a degree as to leave only a limited central portion of their cavities unoccupied, it is obvious that, when they are divided transversely, the following appearances will be observed: — 1. A bronchial tube will resemble a tubercle having a central depression, or soft central point, on account of the centre of the tube not being, or never having been occupied by tuberculous matter, and of its containing a small quantity of mucus, or other secreted fluids. 2. The air-cells will exhibit a number of similar appearances, or rings of tuberculous matter grouped together, and containing in their centre a quantity of similar fluids. When the bronchi or air-cells are completely filled, the tuberculous matter presents no such appearances." (Professor Carswell's *Illustrations of the Elementary Forms of Disease*, fasc. i.) Softening, he says, most frequently begins at the circumference of firm tuberculous matter, where its presence, as a foreign body, is most felt by the surrounding tissues. — *En.*

\* In the lungs, the idea of encysted tubercle appears, to Dr. Carswell, erroneous, the distended walls of the air-cells being commonly mistaken for cysts. He admits, however, that tuberculous matter is sometimes encysted, but not until it has undergone changes preparatory to its ultimate removal from the organ in which it is formed. — *En.*

† The common pulmonary tubercle is most indurated in its early stages, and the change which it afterwards undergoes, is a softening or dissolution, which Andral refers to the effect of the pus secreted around it. An increased hardness of the tubercular matter, after its first secretion, has not yet been proved, with the exception of a few instances, in which a large proportion of phosphate and carbonate of lime, is deposited in the substance of the tubercles. According to M. Andral, this happens chiefly in cases where these bodies have for a long time



red blood, or of carbonaceous matter, become not unfrequently of a black or chocolate hue, the melanosis of Bayle, but not that of Breschet and Laennec; and which, by other unions or other changes, produced, perhaps, by the anomalous operation of the still inherent principle of life, furnish us with all those appearances, which dissections bring to light on the surface, or in the substance, of the lungs, or whatever other organ may chance to be affected.

Many writers conceive that, for the growth of tubercles, it is absolutely necessary that inflammation should take place, and that the whole of the new matter must be supplied from the sanguiferous system immediately: a doctrine rather upheld by Mr. Hunter's followers than by himself, and directly opposed, as Bichat has justly observed \*, by the absence of all the signs of inflammation in by far the greater number of passing cases, at least till the morbid growth has fully established itself, and operates by mechanical pressure, or some other excitement. While other physiologists have limited such morbid growths to the operation of the absorbent system, or to minute bladders containing a limpid fluid which they have called hydatids; the term being sometimes employed as a mere synonym of bladders or turgid vesicles of serum, in the language of Boerhaave, "hydatids, sive vesiculæ sero turgentes †;" and at other times importing a parasitic animaleule forming a subdivision under the genus *tænia* of Linnæus, and of which we have already spoken under turgescence of the liver. ‡

[With regard to the important question, whether tubercles of the lungs are the product of inflammation, the subject is one concerning which some of the greatest men in the profession are yet divided. "If," says Laennec, "we question any practitioner, ignorant of morbid anatomy, but who is a man of observation and free from prejudices, he will give it as his opinion, that the symptoms of phthisis very rarely supervene to acute pneumonia. Even in the cases where this sequence is observed, it is impossible to say whether the pneumonia has given rise to the tubercles, or whether these, acting as irritating bodies, have not excited the pneumonia." The latter view was adopted by a late eminent physician of this country; for, he distinctly observes, that the number and the increase of the size of tubercles frequently create irritation in their vicinity, so that a *consequent* inflammation of the surrounding texture is not an uncommon circumstance. § The solution of the question by a reference to pathological anatomy, Laennec deems far more simple, since it is certain, that we very rarely find tubercles in the lungs of those who die of pneumonia, and that the greater number of consumptive subjects exhibit no symptom of this disease during the progress of their fatal malady, nor any trace of it after death. Many of these have even never been affected with it, during the whole course of their lives. If

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Some writers suppose, that inflammation is essential, and always present. Others ascribe the formation of tubercles to the absorbent system alone: or to hydatids in Boerhaave synonymous with vesicles of serum: by others denoting a parasitic animaleule.

Arguments against the doctrine of the origin of tubercles from inflammation.

ceased to have any serious effect upon the constitution. In this respect, the early transformation is quite the converse of the process, by which a tubercle is softened. — Ed.

\* Anatomie Générale, tom. iv. p. 517.

† Epist. Anat. ad Fred. Ruysch., p. 82.

‡ Vol. i. Cl. i. Ord. iii. Gen. iv. Spec. i.

§ Armstrong's Morbid. Anat. of the Bowels, &c. p. 16. Lond. 1828. 4to.

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.  
Laennec's  
opinion.

tubercles were merely a product of acute peripneumony, we should be able to ascertain the different steps of the transition of the one into the other, which is not the case. It is said, that chemical analysis discovers no difference between the softened matter of tubercles and true pus\*: in like manner, Laennec replies, it discovers none between the albumen of the egg and the secretion of certain cancers. These facts only prove the imperfection of chemistry, and not the identity of the matters in question. In almost all their physical characters, tubercles differ from pus. After the complete evacuation of a softened tubercle, its contents are never renewed; while the sides of an abscess, after it is opened, are well known to continue to secrete pus. Laennec admits that acute pneumonia and tubercles occasionally co-exist; but the complication is rare, when the great frequency of both diseases is taken into consideration. In nineteen twentieths of the cases of this complication, the tubercular affection evidently precedes the other; and we may therefore infer, either that the tubercles are the occasion of pneumonia, or that the diseases, although co-existing, have no etiological relation to each other. Laennec concedes, however, as a matter of no evil consequence in practice, and of no importance in theory (although he thinks it supported neither by direct experiment, nor positive observation), that, in the small number of cases where phthisis is seen to arise during the convalescence from acute peripneumony, the inflammation may sometimes accelerate the development of tubercles, to which the patient was disposed from some other cause, of the nature of which we are ignorant, but which is assuredly different from inflammation.† According to M. Andral, if the *disposition to tubercles be very strong*, the slightest local congestion of blood will give rise to them; wherever such congestion takes place, the same product appears; or the *tubercular diathesis* is produced. If this disposition be less strong, it is requisite for the formation of a tubercle, that the congestion of

Andral's.

\* As already observed, the softening of tubercles is ascribed by Laennec, Andral, and Carswell, to the effect of suppuration around them; in other words, the tubercular matter dissolves in the pus. If this explanation be correct, though disagreeing with the admission of Andral, that the softening of tubercles often begins in their centre, it is not surprising that the analysis of suppurated tubercles should resemble that of purulent matter. But the analysis of a solid tubercle is different, being, according to M. Thénard, animal matter, 98.15; muriate of soda, phosphate of lime, carbonate of lime, 1.85; with some traces of oxide of iron. There are tubercles, however, the analysis of which is still more different from that of pus; viz., those which contain a very large proportion of phosphate and carbonate of lime, and which are generally such as have existed a long while, without any serious effect on the system. They consist of animal matter, 3; saline matter, 96. These are the only kind of pulmonary tubercles, which can be said to become more indurated with time. Professor Carswell observes, that the chemical composition of tuberculous matter varies, not only at the different periods at which it is examined, but in different animals, and probably in different organs. In man, he says, it is chiefly composed of albumen, with various proportions of gelatine and fibrine. The most important fact, relating to this part of the subject, is, "that either from the nature of its constituent parts, the mode in which they are combined, or the condition in which they are placed, they are not susceptible of organisation, and consequently give rise to a morbid compound, capable of undergoing no change, that is not induced in it by the influence of external agents." See Professor Carswell's *Illustrations of the Elementary Forms of Disease*, fasc. i. — Ed.

† See Laennec on Diseases of the Chest, p. 291, ed. 2, tr. by Forbes.

blood should be so considerable, and permanent, as to amount to inflammation. But, *when there exists no such predisposition, the most intense, and the longest inflammation, will not produce a tubercle.* \*

GEN. III.  
SPEC. V.  
Marasmus  
phthisis

The latter admission is virtually an acknowledgment, that the formation of tubercles depends essentially upon a peculiar diathesis. Against the idea of tubercles being simply the effect of inflammation, Dr. Armstrong instances the following fact: in many cases, where tubercular points are scattered over the pleura or peritoneum, the serous membrane is transparent up to these points, and only becomes reddened or opaque, when the tumour has enlarged so as to produce local irritation. The tubercles, he admits, is probably connected with effusion of fibrine, but, according to his observations, such effusion is not necessarily connected with inflammation. †

Armstrong's  
opinion.

The ancients ascribed to inflammation all kinds of scirrhi, tumours, and tubercles. In the course of the eighteenth century, this doctrine encountered opposition; but it was not till M. Bayle directed his powerful mind to the subject, that many positive facts were collected in formidable array against the hypothesis. On the other hand, the celebrated Broussais ‡ has continued to be an active defender of the ancient opinion; and, as far as tubercles of the lungs are concerned, he can still boast of distinguished partisans, amongst whom he it sufficient to mention the name of Alison. The cases, which this gentleman has seen, and which seemed to him to furnish the best evidence on this point, have occurred, he says, in young children. From them he has been led to think, that when the constitutional *tendency to them prevails*, tubercles may form in very different circumstances, and probably with various rapidity. He has little doubt, that *they do often form without being preceded by inflammation, of such a character as to be detected by symptoms during life*; and that, in the lungs at least, *the inflammation, of which the undeniable marks are so often found along with them after death, has really often been posterior to them in date*. But he has also been led to believe that *it is not merely, as Laennec states, a possibility, but a real and frequent occurrence, that inflammation, acute or chronic, (to which he would add febrile action), however produced, becomes, in certain constitutions, the occasion of the development of tubercles.* §

Arguments in  
support of the  
doctrine.

Espoused by  
Broussais.

Alison, &c.

The cases, which seem to Dr. Alison to confirm the doctrine, that tubercles sometimes form in consequence of inflammation, he arranges under two heads:—

1. The first consists of cases, in which the tubercles did not cause death, and were found on dissection in an incipient state, but so immediately succeeding to the symptom, and *so closely connected with, or even passing by insensible degrees into, the undeniable effects of inflammation*, that it was impossible to suppose their formation independent of it.

Alison's facts.

2. The second consists of examples, in which children, previously in good health, or, at least, unaffected with any pulmonary com-

\* Andral, Clinique Méd. tom. iii. p. 13.

† Armstrong's Morbid Anatomy of the Bowels, &c. p. 17. 4to. Lond. 1828.

‡ Exam. des Doctr. Méd., 1816.

§ Alison in Edin. Med. Chir. Trans., vol. i. p. 407.



GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

plaint, have been seized with well-marked inflammatory symptoms, generally from a known cause, certainly adequate to that effect. These symptoms have lasted some time, and been manifestly dangerous to life, — have subsided very imperfectly, — the children have passed into the state of phthisis, and died within a few months, and, on dissection, tubercles have been found in various stages of progress, but with little or no other appearance which could be considered either as the effect of the inflammation, *known to have existed*, or as the cause of death.

In a paper of later date \*, Dr. Alison strengthens, by additional facts and observations, the proposition that, *in certain constitutions*, inflammation, acute or chronic, but most generally chronic, does frequently and directly lead to the deposition of tubercles.

The first fact to which he adverts is, that tubercles are very seldom found in the bodies of children, who are still-born, or die

\* Edin. Med. Chir. Trans., vol. iii. p. 274. The expression "*in certain constitutions*," employed by Dr. Alison, is an important limit to the doctrine. With this understanding, there is no material difference between his views and those of Laennec and Andral. The latter pathologist distinctly affirms, that irritation alone will not necessarily give rise to tubercles, which are frequently formed without any irritation that can be perceived. Without the concurrence of other causes, mere irritation will not account for their production. (Anat. Pathol., tom. i. p. 438.) Like many other writers, he ascribes much to peculiarity of constitution. Tubercles, he says, are particularly apt to form in individuals whose skin is very white, and, as it were, shrivelled, without any traces of colouring matter in its capillary network; and whose cheeks exhibit a red patch, making a singular contrast to the dead white of the rest of the face. The colouring matter is also deficient in the eyes, which retain the blue colour of infancy; and the hair is of a light hue, and its quantity small. The muscles are slender and flabby, with little strength of contraction. The blood is serous, and poor in fibrine and colouring matter; and the mucous secretions predominate. In persons of this diathesis, sanguineous congestion readily takes place in the skin and mucous membranes; and, when once produced, do not terminate, but continue in a chronic form, and are frequently followed by ulcerations, and various disorganisations, very difficult of cure, and often needing remedies of an opposite nature to such as are termed antiphlogistic. These individuals seem to retain in adult age several traits which appertain to infancy, considered both in its healthy and diseased state; and the development of their organisation is impeded. This kind of constitution may be formed without the influence of any manifest external cause. In other instances it appears to be acquired: a residence in an impure air, or such as is not renewed often enough; the crowding of many persons together; absence of the sun's rays; an habitually damp atmosphere; food of a quality inadequate to repair the strength of the system; and various excesses, which exhaust the strength and nervous influence, and injure nutrition; are enumerated by Andral as so many causes, which, at the same time that they render the blood so poor as to account for the state of the skin and muscles externally, give a chronic character to every inflammatory complaint, and a tendency in every organ to the tubercular secretion. And, it is observed, that both in the child and the adult, it is such a constitution that has a disposition to produce tubercles simultaneously in a great number of organs. It is not to be supposed, however, that tubercles form only in these constitutions; and Andral admits that it is not uncommon for phthisis to destroy persons of dark complexion, very black hair, and a muscular system strongly developed. We know, indeed, that so far is a dark complexion from being a certain protection from phthisis, that the blacks of Africa, when brought to this climate, are particularly liable to the disease; though here the disposition to it may be set down as acquired. At this present time (Dec. 1830), the editor has a patient with phthisis, in the King's Bench, whose complexion is remarkably dark, and his hair black. However, he believes with M. Andral, that the natural disposition to tubercles is most frequent in the above description of subjects, and especially the tendency to their simultaneous production in several organs. Op. cit. p. 454. — Ed.

very shortly after birth.\* Velpeau and Breschet had frequently sought for tubercles in the fœtus, but could never find them; and though Orfila and West have seen them, it was only in small number.† Dr. Alison, therefore, infers, that, in most of the numerous cases, where tubercles are found in the bodies of young children, the diseased actions by which they are formed originate after birth, parents transmitting to their offspring only the tendency to this kind of diseased action, and very seldom the actual disease.

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Dr. Alison next quotes the observation of Magendie, that, in those cases, where he had detected tubercles of the smallest size, and apparently in the earliest stages of the bodies of young children, they were surrounded by circumscribed vascularity. This Dr. Alison has also observed, not uniformly, but in many cases. Lastly, Dr. Alison, in support of his views, adverts to the frequency of phthisis in masons, as is supposed from the irritation of the particles of sand inhaled; and to certain experiments by Dr. J. P. Kay, in which the introduction of a globule of mercury into the tracheæ of rabbits led to the production of clusters of tubercles in the lungs, each tubercle containing in its centre a small particle of mercury. As for these experiments, and others recorded by Cruveilhier‡, the editor thinks, that they merely show, that the particles of mercury, like other extraneous bodies, led to the effusion of lymph around them, by which they became encysted, just as a leaden shot, or bullet, has frequently been observed to be, when it has been lodged in the lungs for some time previously to death. The same process happens in all other parts, so as to circumscribe extraneous bodies. The analogy between these cases, and others in which tubercles are produced extensively throughout the lungs, by a process, in which frequently the presence of no extraneous body can be suspected, certainly does not seem very evident.]

Alison's opinions on the connection of tubercles with inflammation.

A few years ago, Dr. Baron brought forward an hypothesis, founded upon the hydatid basis. Waving the question of the animal origin of the hydatid, as contended for by Dr. Jenner and others, and resigning the critical meaning of the term tubercle as a diminutive substantive, he employs tubercle, vesicle, and hydatid, as nearly synonyms. Tubercles in their incipient state, being with him, "small vesicular bodies with fluid contents §" the hydatids of his friend Dr. Jenner, and vesicles being parallel with both, and distinguished from *tumour* as follows:—"I would employ the word *tubercle* to denote those disorganisations that are composed of one cyst, whatever may be its magnitude, or the nature of its contents; and by *tumour* I would understand those morbid structures that appear to be composed of more than one tubercle." ||

Baron's hypothesis.

His meaning of vesicle, tubercle, hydatid, and tumour.

From this source Dr. Baron derives tumours of almost every kind, varied merely by the peculiarity of the constitution, or the concomitant circumstances of the organ in which their vesicular

Affirms them to arise from the absorbent system

\* Denis, Recherches d'Anat. et de Physiologie Pathologiques sur plusieurs Maladies des Enfants nouveau-nés.

† One or two additional cases of this kind are recorded in Lloyd's work on Scrophula. The preparations are in Mr. Langstaff's museum.—Ed.

‡ Anat. Pathol.

§ Enquiry illustrating the Nature of Tuberculated Accretion, &c., p. 214.

|| Enquiry, ut supra, p. 213.

## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

alone, having  
no concert with  
the sanguife-  
rous : and  
hence at issue  
with the fol-  
lowers of  
J. Hunter.

General pro-  
gress under  
this view.

May remain  
long dormant  
and inactive :  
in a predispos-  
ing diathesis  
may spread  
rapidly :  
and in various  
organs.

Albumen  
found to be  
deposited in  
tubercular  
diseases.

or hydatid form first makes its appearance ; and hence ramifying into encysted tumours, however diversified in their contents, — whether limpid, gelatinous, cheesy, pultaceous, medullary, or steatomatous, — sarcomatous tumours, scirrhus tumours, cartilaginous tumours, cancer, and the fungus hæmatodes. He limits their formation to the absorbent system alone, conceiving the sanguiferous to have little or nothing to do with the morbid productions ; and, upon this point it is, that he is chiefly in a state of challenge with the ablest supporters of the Hunterian doctrines.

According to Dr. Baron, the tubercle “ may be pendulous, or embedded in any soft part, or it may be found between the layers of membranes, and wherever the textures are of such a nature as to admit of its growth. It may be so small as to be scarcely visible, or it may acquire a very great magnitude. Single tubercles are often seen in a viscus, while all the rest of the organ is free from disease, and its functions are performed in an uninterrupted manner. But it is evident, that the same state of the system, whatever that may be, which calls one tubercle into existence, may generate an indefinite number : that they may be diffused through the whole of a viscus, leaving nothing of its original texture ; or they may occupy any portion of it, or extend to the contiguous parts, and involve them in the same form of disease.” \*

If the organ or the general constitution be not much predisposed to a generation of tubercles, a few may remain for a long time inert, and without any multiplication whatever ; but there is often a peculiar diathesis that favours such a complaint, and facilitates its being called from a latent state into an active manifestation by a thousand little accidents ; and which, when once excited, encourages the growth of tubercles in great abundance, and finds a rich and ready soil for them, not in one organ only, but in every one. A case, strikingly illustrative of this form of the disease, is recorded by Mr. Langstaff. †

[Some valuable observations, lately published by Dr. Abercrombie ‡, are very unfavourable to the hypothesis, that tubercles consist of hydatids. A chemical examination of the mesenteric glands affected with tubercular disease, he found to present some curious results. When a gland, having a soft fleshy appearance, is plunged into boiling water, it instantly contracts considerably in its dimensions, its textures become much firmer, and its colour changes from that of flesh to an opaque white or ash-colour. By boiling for a short time, it loses a great part of its weight ; but a residuum is left, which has increased much in firmness during the boiling, has lost entirely the flesh colour, and exhibits the appearance, consistence, and properties of coagulated albumen. The part that is lost seems to consist partly of water, but chiefly of the muco-extractive matter ; sometimes, but not always, there is a mixture of gelatine ; and, in some specimens, the coagulated part gave traces of fibrine, but in small quantity.

According to Dr. Abercrombie's report, the proportions of these ingredients varied exceedingly in different specimens, and apparently in different periods of the disease. In the softest state,

\* Enquiry, ut supra, p. 216.

† Med. Chir. Trans., vol. ix.

‡ See Abercrombie on the Nature, &c. of Tubercular Diseases, in Edin. Med. Chir. Trans., vol. i. p. 682.



glands, which were considerably enlarged, lost, by boiling, about five sixths of their weight: the remaining one sixth being a firm mass, with the appearance of the firm white tubercle, and the properties of coagulated albumen. Glands, examined in a more advanced stage of the disease, lost by boiling perhaps from two thirds to one half. Portions in the semi-transparent, cartilaginous state, lost about one fourth, leaving three fourths of their weight in the same state of firm, opaque, albuminous coagulum. The white, opaque, tubercular matter lost a still smaller proportion, and what was left was a firm white substance, resembling coagulated albumen. The same results were obtained from an examination of the white tubercle of the lungs, the tubercular disease of the bronchial glands, tubercles of the liver, certain tumours of the brain, and of similar masses in other situations.

As the mesenteric and lymphatic glands, approaching the healthy state, do not exhibit any traces of albumen, Dr. Abercrombie infers, that the deposition of this substance in them is a morbid process, and that there is good ground for conjecture, that this deposition of albumen is the origin of tubercular disease.

The tuberculated disease of the peritoneum, on which so much of Dr. Baron's hypothesis is founded, presented, in Dr. Abercrombie's experiments, characters considerably different from those of tubercles of the lungs, or of the tubercular disease of the lymphatic glands. The specimens presented an irregular surface, elevated into variously shaped nodules of a semi-pellucid appearance and firm texture. By boiling in water, these nodules were nearly dissolved, leaving only a small central part, to which they seemed to have been attached, and which had undergone little or no change during this first boiling. The part that was dissolved seemed to consist entirely of the muco-extractive matter, and the part that remained was the same substance in a more concrete state, with a small trace of albumen. In all Dr. Abercrombie's examinations, this substance seemed remarkably different from what is observed in the proper tubercle. They both differ, however, from the contents of an hydatid, which consist of water, holding in solution about one hundredth part of saline matter, and one fortieth part of muco-extractive animal matter; a fact weighing heavily against Dr. Baron's hypothesis.\*

The researches of Dr. Armstrong taught him, that the vesicular appearance of a tubercle is an accidental occurrence, dependent on the texture of the part in which it is placed; a fact agreeing with Dr. Carswell's investigations. Thus, tubercles in their origin may have the vesicular appearance in the lungs; but if minutely examined, he says they will be found to be the extremities of the bronchial tubes, or air-cells, into which the peculiar deposit constituting tubercle often takes place. He has frequently examined them in a strong light, and never found them to be, strictly speak-

GEN. III.  
SPEC. V  
Marasmius  
phthisis.

Characters of  
tuberculated  
disease of the  
peritoneum  
different from  
those of pulmo-  
nary tubercles.

Differences of  
tubercles from  
hydatids.

\* Dr. Carswell has always found tuberculous matter in scrofulous glands; and, when the cutis is pale, and they happen to lie directly under it, they are almost completely filled with this morbid product. "When, therefore, enlarged glands, in a scrofulous patient, ultimately disappear, we may conclude, almost with certainty, that we have witnessed the cure of a tubercular disease." See *Illustrations of the Elementary Forms of Disease*, fasc. i. — Ed.

## GEN. III.

## SPEC. V.

Marasmus  
phthisis.Errors in  
Baron's hypo-  
thesis.

ing, vesicles, though the tubercular points have been in many cases extremely minute.\*

Dr. Baron attempts to prove, that tubercles are essentially hydatids, and that the progress of tubercular disease is precisely the reverse of Laennec's description; and that, instead of passing from an indurated to a softened and fluid state, they are at first simple vesicles of fluid †; and that they gradually pass through a process of inspissation, until they become quite hard, in which state, he says, there is the strongest reason for believing, that they do not subsequently soften! This theory seems to Dr. Forbes incompatible with the best established facts, and susceptible of ready refutation by any person versed in modern pathology. Dr. Baron, as a critic has remarked, has betrayed not only a singular misapprehension of the pathology of the diseases of which he treats, but actually not a due acquaintance with the natural history of hydatids themselves, on which all his opinions repose. He reproaches Laennec with indulging in unnecessary minuteness in his description of tubercles; forgetting, in his zeal for the hydatid doctrine of disease, that nature's forms may be very diversified, and that it is the privilege of theory only to be just as simple as the theorist could desire. Real instances of hydatids in the lungs are extremely rare, Andral having met with only four or five cases, amongst six thousand subjects. ‡

\* See *Morbid Anatomy of the Bowels*, &c. p. 16. Dr. Armstrong's belief that tubercles are originally the extremities of the bronchial tubes, or air-cells, may have been derived from the fact, that tubercles are sometimes situated in the substance of the parietes of the air-cells, and of the minute ramifications of the bronchia. Matter, like that of tubercles, has been found, however, in cavities lined by mucous membrane, after ulceration has taken place. Mucous follicles, and lymphatic vessels, have been occasionally remarked to contain a similar substance. (Andral, *Anat. Pathol.*, tom. i. p. 419.) The cellular tissue is, then, not the only nidus for tubercles. — ED.

† According to Professor Carswell, tuberculous matter does not acquire its maximum of consistence, until an indefinite period after its formation; and he states, that it is frequently found, in its primitive state, in the bronchi, air-cells, and other situations, resembling a mixture of soft cheese and water. (See *Illustrations of the Elementary Forms of Disease*, fasc. i.) M. Cruveilhier believes, that, previously to the period when a tubercle presents itself as a firm substance, it has a less advanced stage, in which it exists in a fluid form. In his experiments to produce tubercles artificially in animals, on an examination of their bodies at the very commencement of the disease, he found, close to the white bodies, which were already indurated, other productions, which differed from them only in having less consistence, and being in a state of fluidity. In the human lungs, filled with tubercles, M. Andral has also seen dispersed throughout the interior of those viscera, white points, consisting of a liquid matter, like a small drop of pus. Yet he is of opinion, that the doctrine of M. Cruveilhier has not been sufficiently proved; that the above appearances are only accidental, and not constant; and that, however minute a tubercle may be, it is mostly met with in a solid shape. At all events, there is one great difference between M. Cruveilhier and Dr. Baron, inasmuch as the former does not suppose that hardened tubercles cannot soften. — ED.

‡ Laennec on *Diseases of the Chest*, note by Dr. Forbes, 2d edit. p. 298. Andral, *Clinique Méd.*, tom. iii. p. 93. In another publication (*Anat. Pathol.*, tom. i. p. 408.), the latter author mentions, that he has seen only a single instance of transparent vesicles in the human lungs, accompanied by tubercles; but he has met with this association more than once in phthisical horses, and, in some of these examples, the fluid of the vesicle became turbid, and surrounded by a white opaque cyst. His inferences are, that the transparent vesicles, observed in a few uncommon cases, in the vicinity of tubercles, are an accidental complication. If

When the morbid action commences in the abdominal organs it far more readily passes into those of the chest, than, when it commences in the chest, into those of the abdomen; instances of which have been sufficiently noticed under the complicated species of parabsysma.\* These, however, are extreme examples; for, in most cases of tubercular phthisis, the disease has made far less progress at the time of its proving fatal, and is often confined to the seat of the lungs alone, and even to an evolution of tubercles of minute size and uniform simplicity of contents, mostly consisting of a whey-like or cheesy material. A certain but low degree of inflammatory action, however, seems to favour a more rapid formation of fresh tumours, and an enlargement of those already in existence; and the same may be observed of the accompanying hectic fever. If this be decided and considerable, the disease may run its course in four or five months, and sometimes sooner. If the hectic be undecided and only occasional, the disease may play about the system for some years, and at length prove equally fatal. If the inflammatory action exceed the low degree we have just adverted to, ulceration and suppuration usually follow, and the tubercular form passes into, or is united with, the apostematous.

M. Louis, like his friend M. Laennec, refers every case of phthisis to a tubercular origin; and where the predisposition to the formation of such growths is very predominant, he has traced them, in post-obit dissections, to a still wider range than the example furnished by Mr. Langstaff: in various instances, indeed, over almost every viscus of the abdominal, as well as of the thoracic cavity. In one or two of these, he has even found the tubercular structure to have been far more manifest and elaborated than in the lungs, and especially in the stomach, the mesenteric glands, the ileum or jejunum, but rarely in the duodenum. But he positively asserts, that he has never traced these morbid appearances in other parts, without some kind of manifestation of them in the lungs: and he hence concludes, that a development of tubercles in this last organ is essential to their formation elsewhere. So far as he has examined, however,—and his field of observation has been very extensive as well as closely followed up, in the Hôpital de la Charité,—phthisis has seldom limited its structural ravage to the region of the lungs. Tubercles, or ulcerations, have usually been detected elsewhere on dissection; often, indeed, in the trachea, larynx, and epiglottis, and occasionally in the pharynx, and œsophagus, as well as in the stomach. And when the hectic has been

GEN. III.

SPEC. V.

Marasmus  
phthisis.But these cases  
extreme.

Course may be  
rapid, and why:  
or lardy, and  
why:  
or may pass  
into the apos-  
tematous form,  
and why.

Great extent of  
tubercular dis-  
ease.

they were the original form of tubercles, they would be more frequently noticed. They may sometimes secrete, instead of their usual contents, a peculiar matter, the physical qualities of which may have more or less resemblance to those of a tubercle; but this is no proof of the latter having been always preceded by a serous cyst, and secreted from it. As well might it be argued, that a tubercle is always secreted by a mucous follicle, or lymphatic vessel, because a substance, like that of tubercle, has been occasionally observed within such parts. Transparent cysts are very common in the diseased lungs of pigs, where they even exceed tubercles in number; and it seems to M. Andral, that this fact is the chief ground of the opinion, that tubercles commence in the shape of hydatids. He also warns us not to mistake the deposition of tubercular matter around hydatids (an instance of which he met with in a rabbit) for the conversion of vesicles into tubercles. — Ed.

\* Vol. i. Cl. i. Ord. II. Gen. iv. Spec. vii.



GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Tubercles  
mostly in the  
lungs, if in  
other organs.

Extent and  
fatality of  
phthisis :

altogether in-  
curable in the  
opinion of  
Bayle.

This opinion  
opposed by  
occasional  
facts.

Whether con-  
sumption be  
curable.

active, there is scarcely an organ but what he has found at times entering more or less into the general circle of action; as the large intestines, the liver, the spleen, the peritonæum, the lymphatic glands, the aorta, and even the brain. The heart, and the urinary organs, have usually escaped with less structural injury than any others.\*

With one exception out of 350 dissections, whenever M. Louis found tubercles in the lungs, he always found them in other organs.† In a few instances, however, Laennec found tubercles commence in other parts, especially in the mucous membrane of the intestines, and in the lymphatic glands, their formation in the lungs having been secondary.‡ The occurrence of tubercles in various organs without the presence of any in the lungs, has been noticed by M. Andral more frequently than by M. Louis. Such cases are more common in children, than adults. In the former, there is a disposition to tubercles in a larger number of parts at once; and the organs most frequently affected in them are not the same as in the adult subject. The parts, which are most frequently the seat of them in the adults, are, first, the lungs, and then the small intestines: in children, first the bronchial glands; secondly, the mesenteric glands; thirdly, the spleen; fourthly, the kidneys; and fifthly, the intestines, &c. In children under fifteen, tubercles are least frequent between the first and second years of their age; and most common from the end of the fourth, until the commencement of the fifth.§

Phthisis, as already observed, is a disease of high antiquity, as well as of most alarming frequency and fatality. So frequent, indeed, is it, as to carry off prematurely, according to Dr. Young's estimate, and the calculation is by no means overcharged, one fourth part of the inhabitants of Europe||: and so fatal, that M. Bayle will not allow it possible for any one to recover who suffers from it in its genuine form.¶ I can distinctly aver, however, that I have seen it terminate favourably in one or two instances, where the patient has appeared to be in the last stage of disease, with a pint and a half of pus and purulent mucus expectorated daily, exhausting night-sweats, and anasarca; but whether from the treatment pursued, or a remedial exertion of nature, I will not undertake to say. Dr. Parr affirms, that he has witnessed six cases of decided phthisis recover spontaneously.

[Previously to the knowledge of the true nature of tubercles, and while consumption was considered simply as a consequence of

\* Recherches Anatomico-Pathologiques sur la Phthisie. Par P. Ch. A. Louis. Paris, 8vo. 1825.

† Recherches sur la Phthisie, &c., p. 179. In the 350 post-mortem examinations mentioned in the text, M. Louis found tubercles in various organs besides the lungs, in the following proportions: — In  $\frac{3}{5}$  of subjects, small intestines; in  $\frac{1}{5}$ , large intestines; in  $\frac{1}{4}$ , mesenteric glands; in  $\frac{1}{10}$ , the cervical glands; in  $\frac{1}{11}$ , the lumbar glands; in  $\frac{1}{13}$ , the prostate; in  $\frac{1}{14}$ , the spleen; in  $\frac{1}{25}$ , the ovaries; in  $\frac{1}{27}$ , the kidneys;  $\frac{1}{30}$ , the womb;  $\frac{1}{30}$ , the brain;  $\frac{1}{30}$ , the cerebellum;  $\frac{1}{30}$ , the ureter. M. Louis makes no mention of tubercles in the testis, which are common; nor does he say any thing about their occasional formation in the bones. — Ed.

‡ Laennec on Diseases of the Chest, 3d edit. by Forbes, p. 285.

§ Anat. Pathol., tom. i. p. 424.

|| On Consumptive Diseases, ch. iii. p. 20.

¶ Recherches sur la Phthisie Pulmonaire. Par. 1810.

chronic inflammation and suppuration of the pulmonary tissue, phthisis was deemed curable, at least, when properly treated before it had made too much progress. But, says Laennec, it is now the general opinion of all well informed pathologists, that *the tubercular affection*, like cancer, *is absolutely incurable*. The observations, contained in the treatise of M. Bayle, as well as Laennec's remarks on the development of tubercles, prove how illusive the idea is of curing consumption in its early stage. Crude tubercles tend essentially to increase in size, and to become soft. Nature and art may retard, or even arrest their progress, but neither can reverse it. But, while Laennec admits the incurability of consumption in the early stages, he is convinced, from a great number of facts, that, *in some cases, the disease is curable in the latter stages*, that is, *after the softening of the tubercles, and the formation of an ulcerous excavation*.\*

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Eight or ten cases of cicatrization of the lungs after tubercles are recorded by Andral.† The learned translator of Laennec's work is of opinion, however, that this author has exaggerated the frequency of recoveries in this way; and that he has considered certain appearances as signs of cicatrization, which were probably owing to other causes. Dr. Forbes considers it likely, that simple pneumonia, or pleuro-pneumonia, may give rise to many of the slighter deviations from the natural structure, considered by Laennec as tubercular cicatrices.‡ Notwithstanding what has here been advanced, many experienced practitioners still incline to Bayle's opinion, that tubercular consumption is incurable; the disease, however, may be retarded, and patients may live with it sometimes thirty or forty years.]

\* Laennec on Diseases of the Chest, 2d edit. p. 299. In Dr. Carswell's Illustrations of the Elementary Forms of Disease, fasc. i., the reader will find some particularly interesting facts, confirming Laennec's views of this part of the subject; for he has traced the several steps of the curative process in the bronchial glands, in individuals who had recovered from scrofula and phthisis, but died some time afterwards of other diseases. He has found in these glands a greater or less quantity of a substance resembling putty, or dry mortar, the consistence of which was sometimes equal to that of sandstone, or bone, and presented spicules, which had excited inflammation, ulceration, and perforation of the lining of the bronchi, or trachea, with which they were in contact. A direct communication was thus formed between the cavity of the air-tubes and the diseased glands, through which the cretaceous bodies passed; and they were rejected along with the expectorated fluids. Dr. Carswell has seen several examples of cure of tubercular disease of the bronchial glands in the manner just described. When these glands have discharged the whole of their contents, they are found atrophied, and converted into a fibrous tissue, which fills up the external orifice of the perforated tube. The accidental opening now contracts, becomes obliterated, and leaves in its place a puckered depression, or cicatrix, seen on the internal surface of the air-tube. Dr. Carswell adds, that similar appearances, indicating the removal of the serous and albuminous parts of the tuberculous matter, and the condensation of its earthy salts, have frequently been observed in the lungs of persons, whose history left no doubt of their having been affected, at some period of their lives, with tubercular phthisis. For a particular description of the changes referred to, leading to this fortunate amendment, the reader is advised to consult Carswell's Illustrations of the Elementary Forms of Disease, fasc. i. It appears, that, if the bronchi remain pervious, the tubercular matter is gradually removed by expectoration; and, if they are closed, it is removed by absorption. — Ed.

† Clinique Méd., tom. iii. p. 382.

‡ See note in translation of Laennec, p. 311. 2d edit. Also Louis, Recherches, &c., p. 26.

## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

Supposed  
range of the  
consumptive  
diathesis.

Mean rate of  
fatality.

Said to be on  
the increase,  
but perhaps  
erroneously.

Explained.

At what period  
of life is con-  
sumption most  
frequent?

Doctrine of the  
Greek schools  
and of Cullen,  
apparently op-  
posed by the  
tables of  
various places.

At Plymouth,  
collected.

Hospital of  
La Charité.

Chester.

The ordinary period of the consumptive diathesis has been stated to be from the age of eighteen to that of thirty-five, occasionally anticipating the first, and overpassing the second, of these limits: the mean term of its proving fatal has been fixed at about thirty; and the annual victims to its ravages in Great Britain, Dr. Woolcombe has calculated at fifty-five thousand.\*

During the last half century, it is said to have been considerably on the increase; but this is, perhaps, chiefly owing to the greater number of infants of delicate health who are saved from an early grave by the introduction of a better system of nursing than was formerly practised; yet who only escape from a disease of infant life to fall before one of adolescence or adult years. And, for the same reason, savages rarely suffer from consumption, as they only rear a healthy race, and lose the sickly soon after birth.

The question, however, concerning the actual range of the consumptive diathesis, or, in other words, at what period of life consumption is most frequent, is still open to enquiry. It was a common doctrine among the Greek physicians, and it has very generally descended to our own day, that phthisis rarely occurs before fifteen or after thirty-five years of age; and Dr. Cullen has entered into an ingenious argument to show why it should be so. Yet the tables, that have been kept in most parts of the world, seem to indicate the contrary; or that, at least, as many die of this disease, and even originate it, after thirty-five or forty years of age, as antecedently to this period. One of the first pathologists, who appears to have called the public attention to this general concurrence of the tables and bills of mortality, is Dr. Woolcombe; and he particularly adverts to the proportions observed in the Dispensary at Plymouth, as being the chief source from which he drew his calculations. He tells us, that of seventy-five deaths from consumption, which occurred within the range of this establishment, ten took place before the age of fifteen, sixteen between fifteen and thirty, and forty-nine above the age of thirty; twenty-three of these forty-nine, moreover, being above the age of forty.†

Dr. Alison‡ has given the result of various other tables, most of which are in consonance with Dr. Woolcombe's. Thus Bayle, in his Treatise on Consumption, notices a hundred cases above fifteen years of age, all of which terminated fatally in the hospital of La Charité at Paris, and after the following proportions: thirty-three below the age of thirty, and sixty-seven above it, of whom forty-four were upwards of forty.§ So Haygarth, in his account of the deaths from phthisis in the course of two years at Chester, makes the total a hundred and thirty-five; of which, twenty-five occurred before the age of fifteen, forty-two between fifteen and thirty, and sixty-eight above thirty; forty-four of these last being above forty. || "In the

\* Remarks on the Frequency and Fatality of different Diseases, &c. 8vo. Lond. 1808.

† Op. cit. &c., p. 75.

‡ On the Pathology of Scrofulous Diseases. Trans. of the Medico-Chir. Soc. Edin., vol. i.

§ Bayle, p. 42. Of 223 deaths from phthisis, recorded by Bayle and Louis, 21 occurred between the ages of 15 and 20, 62 between the ages of 20 and 30, 56 between those of 30 and 40, 44 between those of 40 and 50, 27 between those of 50 and 60, 13 between those of 60 and 70. See Laennec, tr. by Forbes, note, p. 352. — Ed.

|| Phil. Trans., lxiv. lxx.



practice of the New Town Dispensary at Edinburgh, Dr. Alison tells us, there have been fifty-five deaths from phthisis in the last two years; of these, eight occurred before fifteen years of age, thirteen between fifteen and thirty; thirty-four after thirty; and of these last, twenty-four after forty."

So in Sussmilah's table of deaths at Berlin in 1746, out of six hundred deaths from phthisis, two hundred and fifty-one are stated to have occurred before fifteen years of age, seventy-three between fifteen and thirty, and two hundred and ninety-six above the age of thirty; two hundred and thirty of which occurred after the age of forty.

In this last table, a greater number of deaths took place within the first fifteen years, than in any fifteen years afterwards. And a like surplus occurs in the calculations at Warrington recorded by Dr. Aikin: the proportions being twenty-four below the age of fourteen, thirty-six between fourteen and fifteen, and the same number above the age of forty-five.\* While at Carlisle, as we learn from Dr. Heysham, out of two hundred and fourteen deaths, fifty-nine anticipated the age of fifteen, sixty took place between this period and thirty; and ninety-five above the age of thirty, sixty-one of these being above that of forty.†

The general result, therefore, seems, at first sight, to oppose in a very striking degree the doctrine of the Greek schools, and those who have followed them; and to show that the age from fifteen to thirty is most exempt from consumption, while that above thirty, or even forty, to the close of life, is most distinguished by fatality from this disease, though the period below fifteen is also seriously invaded by it.

But the doctrine of the Greek schools relates to idiopathic consumption as the product of a phthisical diathesis; or, in other words, affirms that this diathesis, when not called into action by accidental excitements, is most disposed to show itself between the ages of fifteen and thirty-five. And, thus modified, it is probable that the doctrine holds good to the present day, notwithstanding the apparent contradiction of the tables now adverted to. For, with respect to the cases of consumption that anticipate the age of fifteen, by far the greater part of them are secondary, instead of primary or idiopathic affections, and follow as sequels of a strumous habit that has previously shown itself in a morbid condition of the mesentery or some other organ, with which the lungs at length associate in action; though, but for such an incidental excitement, they would probably have remained quiescent for several years longer. In many instances, indeed, they are, to the last, rather *tubes strumosa*, strumous or mesenteric decline, than

GEN. III.  
SPEC. V.

Marasmus  
phthisis.  
Edinburgh.

Berlin.

Warrington.

Carlisle.

The result apparently at variance with the doctrine of the Greek schools.

This doctrine explained: and modified: and thus not opposed to the above calculations.

Consumption primary and secondary: idiopathic or sequential.

Why frequent in early life.

\* Phil. Trans., vol. liv.

† Milne, on Annuities, vol. ii. p. 464. After puberty, Andral has calculated, that tubercles are most common in men between the age of 21 and 28; but that females are most liable to the disease, ere they attain their 21st year. (Anat. Pathol., tom. i. p. 429.) These estimates, it is to be observed, refer only to the periods of the existence of the disease, and not to the time of life in which the greater or lesser number of deaths take place from it. The latter is a very different question; because numerous consumptive patients linger many years. Dr. Elliotson observes, that in this country scrofula is more likely to occur in the lungs, between the ages of 18 and 30, than at any other time of life. See Lect. at Lond. Univ. as published in Med. Gaz. for 1833, p. 231. — Ed.

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

phthisis or consumption properly so called, though included in the bills of mortality or other tables under this last name. And as we have already observed, that variolous and vaccine inoculation carry various sickly infants through the period of infancy, who would otherwise have fallen victims to the small-pox, yet who, a few years afterwards, from the same sickliness of constitution, sink beneath the assault of decline or phthisis, we see sufficient reason for the greater number of early deaths in our own day from what is ordinarily called consumption, and what often is strictly so, though of a secondary or catenating, instead of a primary or idiopathic kind, than was known to the Greek authorities, whose doctrine, relating to idiopathic phthisis alone, is not hereby interfered with. The observations of M. Louis, to which we have just adverted, and which seem to have been made and persevered in with great accuracy, are directly coincident with these remarks, and support the calculation of the Greek school. "The number of individuals who die of phthisis," says this attentive pathologist, "is more considerable between the ages of twenty and forty, than between forty and sixty, although the general mortality is less in the first, than in the second of these periods. And, in support of this assertion, he subjoins the following table as the result under his own eye :—

Age.	Number of Deaths.	Age.	Number of Deaths.
From 15 to 20 - -	11	From 40 to 50 - -	23
20 - 30 - -	39	50 - 60 - -	12
30 - 40 - -	33	60 - 70 - -	5

And in effect the proportions, as arranged by M. Bayle, do not essentially vary when given in his own tabular form, instead of being generalised, as they are by Dr. Alison, in the reference just quoted. In this form, they occur as follows :—

Age.	Number of Deaths.	Age.	Number of Deaths.
From 15 to 20 - -	10	From 40 to 50 - -	21
20 - 30 - -	23	50 - 60 - -	15
30 - 40 - -	23	60 - 70 - -	8

Why frequent  
in later life.

In respect to the exuberant cases that occur in later life than thirty, they are, for the most part, far less a result of a plithisical diathesis, than of an accidental exposure to causes peculiarly operating upon the lungs, and exciting them to a morbid action, so as to produce the disease, whether there be any hereditary taint, or predisposition to consumption, or whether there be none.

Incidents.

These causes are chiefly the habitual influence of a higher degree of heat or of cold, and especially the latter, than is consistent with that eulhetsy or perfection of constitution on which sound health depends; and particularly the mischievous influence of a temperature perpetually varying from high degrees of heat to those of cold; and a like mischievous exposure to irritating gases, or spicular dust, perpetually inhaled in various chemical or handicraft occupations. Above thirty years of age, the stations of mankind are usually fixed, and, whether healthy or unhealthy, they cannot easily be abandoned.

If, then, we examine the kind of consumption which takes place above this age, we shall find it, in by far the greater number of

cases, confined to the lower classes—to those engaged in the occupations just noticed, or who have injured themselves by intemperance; while the classes above them, who have passed safely through the period of from fifteen to thirty or forty years of age, and are free from the incidental excitements alluded to, rarely add to the number of deaths from consumption; and may be regarded as having, in a considerable degree, lost whatever predisposition they had to the disease in an anterior stage of life. Thus again confirming the correctness of the earlier and more common doctrine upon this subject, which refers chiefly to consumption as issuing from a phthisical diathesis.

Hence a material difference is very generally discernible in the nature of the disease as occurring in earlier life, or during the natural range of the predisposition, and as occurring from incidental excitements afterwards. The first is usually, though not always, of the tubercular variety; the last, as usually of the catarrhal, or apostematous, most commonly of the catarrhal modification, originating from habitual irritation, and repeated and neglected inflammation, not at first of an unhealthy character, for the most part more active than tubercular inflammation; and, where suppuration does not take place freely, leading to a dark-lued or hepatised induration.

The causes of phthisis, then, are of two kinds; the predisponent, and those that excite the predisposition into action, or operate even where there is no predisposition whatever.

Of the nature of the predisponent cause, we know little more, than that it appertains to a peculiarity of constitution, which will be noticed presently.\* The exciting or occasional causes are very numerous, as mechanical irritation of the lungs from swallowing a piece of bone; the dust of metallic or other hard substances perpetually inhaled; frequent and sudden changes of temperature, or exposure of the body to cold when in a heated state and unprepared for it; overaction in speaking, singing, or playing on a wind-instrument; the irritation of various other diseases, as worms, scrofula†, syphilis, or measles; too rapid a growth of the body; and various passions perpetually preying upon the individual, as mortified ambition, disappointed love, home-longing‡, when at a remote distance from one's friends and country.

Examples of consumption from a mechanical irritation of the lungs are peculiarly numerous, and they furnish cases of every variety of the disease, according to the habit or idiosyncrasy, though the apostematous is less frequent than the rest. So common is this complaint among persons employed in dry grinding, or pointing needles in needle-manufactories, that Dr. Johnstone, of

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Difference in  
phthisis as oc-  
curring in  
earlier life, and  
during the  
phthisical  
diathesis: and  
as occurring  
from incidental  
causes after-  
wards.

Predisponent  
and exciting  
causes.

Exciting causes  
numerous.

Mechanical  
irritation.

Fine acuated  
dust floating  
in the air.

\* Many would escape the disease, were it not for their being exposed to wet and cold, for want of proper lodging and clothing. These circumstances, together with unwholesome food, are well known to create a tendency to, and even to excite, scrofulous diseases in general, amongst which must undoubtedly be placed tubercular phthisis. It is alleged, says Dr. Elliotson, that formerly, in Scotland, the people were all dressed in woollen, and phthisis was rare amongst them; but that since they have changed it for cotton, the disease has become very prevalent in that country. — Ed.

† Tubercular phthisis is considered, by the most accurate pathologists of the present day, as a scrofulous disease itself. — Ed.

‡ R. Hamilton, in Duneau's Med. Com., xl. p. 343.



## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

In some places  
endemic from  
this cause.

Worcester, informs us they seldom live to be forty, from the accumulation of the dust of the grind-stones in the air-cells of the lungs, and the irritation and suppuration which follow.\* It appears to be little less common among knife and scythe-grinders, whence, according to Dr. Simmons, the disease thus originating is called the grinder's rot†; and Wepfer gives an account of its proving endemic at Waldshut, on the Rhine, where there is a cavern in which mill-stones are dug and wrought: the air is always hot, even in the winter, and a very fine dust floats in it, which penetrates leathern bags, and discolours money contained in them. "All the workmen," says he, "become consumptive if they remain there for a year, and some even in a shorter time; and they all die, unless they apply early for assistance."‡ And hence, Dr. Fordyce had much reason for regarding the dust of the streets of London as a serious cause of pulmonic disorders§; though it is a cause that has been much diminished since the introduction of paving and watering.|| As these are causes that operate at all ages, consumption amongst such persons occurs at all ages also; in patients, however, beyond forty, it may, for the most part, be regarded as a strictly original disease, the consumptive diathesis having, by this time, as already observed, gradually lost its influence. And it is on this account, that Dr. Alison regards the tubercular or strumous form as rarely taking place after the age of thirty-five or forty¶: thus confirming the ancient, and, indeed, the common opinion, how much soever opposed by the tables we have already referred to.

Irritation from  
a lodgment of  
a bony frag-  
ment in the  
œsophagus or  
stomach.

A lodgment of some fragment of a bone even in the œsophagus has, in like manner, been a frequent cause of phthisis, which has often been protracted through a long period of time. Thus Claubry gives a case of this kind which had continued for fourteen years, and the patient seemed to be in the last stage of a consumption, when he was fortunate enough to bring up the piece of bone spontaneously, in consequence of which he recovered, though for the preceding four years he had laboured under an hæmoptysis.\*\* Mr. Holman describes a similar case that had run on for fifteen years, accompanied with cough, hæmoptysis, and hectic diarrhœa; and which was also speedily relieved in consequence of the bony fragment, three quarters of an inch in length, and apparently carious, being suddenly coughed up after the discharge of a pint of blood.††

Irritation from  
an immoderate  
use of the vocal  
organs in speak-  
ing, singing, or  
using wind-  
instruments.

A moderate use of the vocal organs, as of any other, tends to strengthen them, and to enable public speakers, singers, and performers on wind-instruments to go through great exertion without inconvenience, which would be extremely fatiguing to those who are but little practised in any of these branches; but the labour is

\* Mem. Med. Soc., v. 1799, p. 89.

† Pract. Observ. on the Treatment of Consumptions. 8vo. 1780.

‡ Observationes de Affect. Capitis, 4to. Schaff. 1727-8, quoted by Young on Consumptive Diseases, p. 206.

§ Trans. of Soc. for the Improvement of Med. and Chir. Knowledge, vol. i. p. 252.

|| The diminution of the supposed cause, and the undiminished frequency of consumption, seem to contradict Fordyce's hypothesis. — *En.*

¶ Edin. Medico-Chir. Trans., vol. i. 1824.

\*\* Sedill. Journ. Gen. Med., xxxiv. p. 13. 1809.

†† Lond. Med. Journ., vii. p. 120.

often carried too far, and the lungs become habitually irritated, and hæmoptysis succeeds. I have known this terminate fatally among clergymen; who have lamented, when too late, that, in the earlier part of life, they spent their strength unsparingly in the duties of the pulpit. Hence, Dr. Young observes from Rammazini \*, that public speakers, readers, and singers, are most liable to pulmonary diseases, and that Morgagni and Valsalva have confirmed the observation. Cicero himself felt it necessary, as he tells us in his book on orators, to retire from the forum for two years, during which he travelled into Asia, and afterwards returned with renewed vigour to the duties of his profession; and Molière died of hæmoptysis, immediately after performing, for the fourth time, his *Malade Imaginaire*.†

Many diseases have a peculiar tendency to excite phthisis, from their close connection with the lungs, or affinity to hectic fever, which is one of its most prominent symptoms. Thus, neglected catarrhs form a frequent foundation, and measles for the same reason.

[This hypothesis of the origin of consumption from catarrh is very ancient, but not at present universally admitted. In most phthisical cases, as Laennec allows, the first symptoms are catarrhal; but, as he also acknowledges, we find very large and very numerous tubercles in subjects who exhibit no signs of catarrh. If it be said, that the tubercles are the product of former catarrhs, Laennec replies, that they exist in persons who have not had catarrh for years, or even at all. Pulmonary catarrh is, indeed, often the first symptom of tubercular phthisis; this, however, may have existed long in a latent state; since we find, on examining the chest of such persons, all the physical signs of tubercles, and sometimes even of tubercles already excavated. On the other hand, thousands of persons have catarrh several times every year, and yet very few of them become phthisical.‡ Some arguments and facts, against the doctrine of tubercles being a consequence of pleurisy, peripneumony, and catarrh, are noticed by M. Louis. Of eighty phthisical subjects, into whose previous history he had particularly enquired, only seven had ever been affected with pneumonia, and four of these had been perfectly free from any pectoral affection for several years before the invasion of phthisis. He notices the fact, mentioned by Laennec, of tubercles being most frequent in the upper lobes, while peripneumony most commonly occupies the lower. He adds, that pneumonia rarely affects both lungs, while phthisis almost always does so; and that the former is most common in men, while the latter is so in women. The same remarks, he says, apply to pleurisy and catarrh, with this addition, that, in cases of chronic pleurisy, he has found as many tubercles in the lung of the sound, as in that of the diseased side. Out of the eighty cases of phthisis, above alluded to, only twenty-three had been particularly subject to catarrh.§]

Whether the tubercles, found in the substance of the lungs, in

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Evidenced in  
Cicero.

Causes.

Irritation from  
sympathetic  
action.

Arguments  
against the doc-  
trine that con-  
sumption is a  
consequence  
of catarrh,  
pneumonia, &c.

Causes.

\* On Consumptive Diseases, p. 264.

† Van Swieten, Aph. iv. § 1201. p. 49.

‡ See Laennec on Diseases of the Chest, p. 293. 2d edit. by Forbes.

§ See Louis, Recherches, &c., p. 503. et seq. Also Forbes, in note to transl. of Laennec, p. 323. 2d edit.

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.  
Causes.

the tubercular variety of consumption, be, in every instance, strictly scrofulous, may admit of a doubt; that they are so in many cases is unquestionable; and hence scrofula becomes very generally an exciting, and not unfrequently, perhaps, a primary cause of this disease.

The tendency of the syphilitic poison to produce phthisis has been noticed by almost every writer from the time of Bennet, who particularly dwells upon it\*; but whether this would be adequate to such a purpose without an hereditary predisposition is uncertain.† And the same remark may be made respecting worms, which Morgagni has stated to be a very common cause.‡ Indeed, any habitual irritation, in any part of the alimentary canal, seems capable of exciting a sympathetic action in the lungs; and hence Wilson, in Dr. Duncan's Annals, gives a case of hectic in a child produced by swallowing a nail two inches long, which remained in the stomach fifteen months, and was then thrown up, and succeeded by a recovery of health.§

Irritation from  
rapid growth.

Rapid growth is always attended with debility; and, where there is a predisposition to consumption, it often becomes its harbinger. Richerand relates a case of this kind that terminated fatally, the individual having grown more than an English foot in a year.|| I have known a still more rapid growth, without any other inconvenience than that of languor; but, in this case, there was no phthisical predisposition.

Where the chest labours under any misformation, we can readily trace another cause of excitement, and are prepared to meet the examples that from this source so frequently occur to us in practice. But it is less easy to explain by what means persons otherwise deformed, and particularly those who have had limbs amputated, should be more liable to consumption than others; yet this also is a remark that has been made by Bennet.¶

Irritation from  
sudden vicissitudes of the  
atmosphere.  
This the most  
common and  
active of all  
irritations.

Of all the occasional or accidental causes of phthisis, however, frequent and sudden vicissitudes of temperature are probably the most common\*\*; so common, indeed, and at the same time so active, as often to be a cause of consumption in constitutions where we cannot trace any peculiar taint or predisposition whatever. Several hundred cases of phthisis from this cause, among which were many fatal ones, occurred in the channel fleet that blockaded the port of Brest in April, 1800. The summer was hot and dry, the duty severe, the sailors, wet with sweat, were frequently exposed

Severe ravage  
in the channel  
fleet, 1800.

\* *Vestibulum Tabidorum*. 8vo. 1654, Leyd.

† "The varieties termed scorbutic, venereal, &c. are all essentially tuberculous, differing only from the common species by the cause (perhaps gratuitous) to which the development of the tubercles is attributed." (Laennec, p. 272.) No modern practitioner of any judgment now believes in the existence of a form of phthisis depending upon and kept up by the syphilitic poison. — Ed.

‡ *De Morb. Thoracis*, lib. II. Ep. Anat. XXI. 43.

§ Vol. I. 1796. Our author here, and in some other places, seems not to have made an adequate distinction between phthisis and hectic fever. — Ed.

|| *Sedill. Journ. Gen. Med.*, xx. p. 255.

¶ *Tabid. Theatr.*, p. 99. Perhaps some explanation of the circumstance, if true, might be deduced from the consideration, that most amputations, in this country at least, are done for scrofulous diseases of joints, and consequently on individuals of strumous diathesis; in whom alone, probably, tubercles of the lungs ever form. — Ed.

\*\* Broussais, *ut supra*. Hastings, *Essay on Bronchial Inflammation*.



to currents of air at the port-holes; and little time was allowed for refitting.\*

Hence, the most frequent examples of consumption are to be found in countries, which are most subject to changes of temperature. In Great Britain, it is calculated, that this disease carries off usually about one fourth of its inhabitants; at Paris, about one fifth; and at Vienna, one sixth: while it is by no means common in Russia, and still less so in the West Indies; for it is checked in both regions by the greater uniformity of the atmosphere, whether hotter or colder.† It is a singular fact, and not well accounted for, that of all places, which have hitherto been compared, the proportional mortality from consumption appears to have been the greatest at Bristol; and this, not among its occasional visitors, but its permanent inhabitants; and yet, as though in defiance of experience, this very place has been chosen as the great resort of consumptive persons.‡ Nor does its mineral water seem entitled to any higher compliment, than its atmosphere. Dr. Beddoes affirms, in direct terms, that it is of no manner of use.§

Heat, when above the range of health and entony, is often found a cause as well as cold, though it does not act so manifestly or so rapidly. But of its power of action, we have a clear proof in the greater frequency and fatality of consumption among the native troops of hot climates during the fatigues of war than among Europeans, who have just been inured to the climate, and have, for a less period of time, been under the influence of its relaxing agency. "We know at least," observes Dr. Alison, "that a great majority of the inhabitants of these climates, both negroes and Hindoos, are unusually prone to scrofula when they come to temperate climates, and even suffer from it, in some instances, in their own, where Europeans are nearly free from it. I was favoured by Dr. Fergusson, lately inspector of hospitals in the Windward and Leeward Islands, with a perusal of the report of the deaths and chief diseases occurring in the army in these colonies, in each quarter, from March 1816, till March 1817, distinguishing the deaths among the white and black troops."|| According to these reports, the average strength of the army, for the entire year, consisted of seven thousand three hundred and thirty-seven whites, and five thousand seven hundred and seventy-two blacks: out of which there died of fever, whites, one in 15·3; blacks, one in 151·8: of dysentery, whites, one in 21·1; blacks, one in 58·9: but of pul-

GEN. III.  
SPEC. V.

Marasmus  
phthisis.  
Causes.

Mortality in  
Great Britain  
from this cause.

At Paris and  
Vienna.

In places less  
exposed to its  
causes.

Consumption  
most frequent  
at Bristol; not  
merely among  
occasional  
visitors, but  
permanent in-  
habitants.

Extreme and  
habitual heat a  
cause.

Illustrated.

West Indies.

\* Trotter's *Medicina Nautica*, vol. iii. p. 325. While Laennec partly admits the truth of the statement respecting the effects of vicissitudes of temperature, he observes, that too light clothing, and the impression of cold, when the body is heated, much more frequently give rise to severe catarrhs, peripneumonies, and pleurisies, which are not followed by the tubercular disease; so that he concludes, that phthisis, when it follows these complaints, has been merely accelerated by them, the tubercles having previously existed. In opposition to Dr. Trotter's account, Laennec says, that most naval surgeons whom he has conversed with, inform him, that they had scarcely ever known a man become phthisical in the course of a long voyage, and that they had frequently seen sailors, who had pulmonary complaints at the time of putting to sea, return benefited or cured. *Op. cit.*, p. 352. — ED.

† Woolcombe (Dr. W.), *Remarks on the Frequency and Fatality of Diseases*. 8vo. Lond. 1808. Southey (Dr. H. H.), *Observations on Pulmonary Consumption*. 8vo. Lond. 1814.

‡ Young, *ut supra*, p. 42.

§ *Manual of Health*, &c. 12mo. Lond. 1806.

|| *Trans. Medico-Chir. Soc. Edin.*, vol. i. p. 397.

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.  
Illustrated.

monic disease, whites, one in 89·1; blacks, one in 4·5. "Fever, therefore," remarks Dr. Alison, "caused ten times as great a mortality among the white troops as among the blacks, and dysentery nearly three times as great; but pulmonary complaints caused twice as great a mortality among the blacks as among the whites. The deaths from this cause were one in 10·9 of the whole mortality among the whites; and one in 2·06 of the whole mortality among the blacks. The pulmonic disease among the black troops was almost exclusively phthisis, which attacked them chiefly in the more elevated situations of the interior of the islands, where the heat is least oppressive, and where the Europeans were most free from the diseases which, to them, are in that climate most fatal."\*

Why the warmer regions of the Mediterranean more remedial to strangers than to natives.

On this account, we can readily see whence, in numerous instances, a residence in the warmer regions of Europe proves remedial to occasional visitors from colder and less genial countries, although the tables of mortality do not show a much greater immunity from consumption among the natives, than exists in higher latitudes. Negroes and Hindoos are by no means exempt from this disease; and we shall presently have to notice, that the southern borders of the Mediterranean give proofs of a frequency and fatality that would be sufficient to deter strangers from trying those coasts as a cure, did not daily observation justify our recommending them to patients of a more northerly origin.†

Consumptive diathesis hereditary.

Where a consumptive diathesis has once originated, it is often very evidently transmitted to succeeding generations; and there is great reason to believe, that the disease is in a certain degree contagious. M. Portal, and a few other pathologists of distinction, have doubted or denied that it possesses any such property; but the apparent instances of communication among near relations and close attentive nurses, and especially between husbands and wives, who have fallen victims to it in succession, are so frequent, that its contagious power has been admitted by most practitioners, and in most ages. Aristotle appeals to it as a matter of general belief among the Greeks in his day‡; and it has since been assented to in succession by Galen, Morton, Hoffman, Vogel, Desault, Morgagni, Darwin, and most modern writers.§

But conceded to by most from the earliest ages.

\* Trans. Medico-Chir. Soc. Edin. vol. i. p. 398.

† An exact comparative view of the degree, in which consumption prevails in different parts of the world, has not yet been satisfactorily obtained. According to Laennec, the complaint is very rare among the natives of high mountainous countries, particularly the Alps. Dr. Forbes thinks it tolerably well made out, that, in the most northern parts of Europe, particularly Russia, and still more conspicuously between the tropics, the disease is considerably less prevalent than in more temperate climates. It is extremely prevalent in every part of Great Britain, Germany, France, Italy, Spain, and in the islands, and on all the coasts, of the Mediterranean sea. Laennec believed the inhabitants of maritime situations to be less liable to consumption than those who reside away from the sea; but in England this is not found to be the fact. See note by Dr. Forbes, in Laennec's Treatise, p. 324. — Ed.

‡ Problem, sect. i. 7.

§ In Languedoc, Spain, Portugal, Italy, and Malta, phthisis is yet regarded as contagious. When the editor was in the latter island, many years ago, a consumptive patient could hardly procure a lodging for money; and in Spain and Portugal, the clothes of persons, who die of consumption, are burned by the civil authorities. Morgagni was so frightened about its contagiousness, that he would not open the bodies of those who died of it. — Ed.

I have myself been witness to various cases which could not be ascribed to any other cause; and Dr. Rush has given an account of a consumption manifestly contagious, which spread from the proprietors of an estate among the negroes, who were neither related to the first victims, nor had been subjected to fatigue or anxiety on their account, and amongst whom it scarcely ever makes its appearance.\* The disease, however, is but slightly contagious, admitting it to be so at all; and seems to demand a long and intimate communion, as, for instance, that of sleeping or constantly living in the same room, to render the miasm effective.

[Respecting the contagious nature of phthisis, the editor must take this opportunity of observing, that a belief in it is not entertained in this country: Laennec distinctly affirms, that the disease does not appear to be contagious in France. When the great frequency of consumption, and other pulmonary complaints confounded with it, is fairly considered, the extensive co-existence of such cases, or their continual succession, or seeming transmissions from one individual to another, can be very well accounted for, without unnecessarily resorting to the doctrine of contagion. If one-fourth or one-fifth of the population die phthisical, such events must of course be frequent. Is it meant to insinuate that all phthisical diseases are contagious, notwithstanding the wide difference in their nature, even as viewed by the author of the present work? Or is it intended to limit the doctrine exclusively to tubercular consumption?]

The diathesis strictly consumptive is usually associated, in the language of Hippocrates † and Aretæus ‡, with a smooth, fair, and ruddy complexion, light or reddish hair, blue eyes, a long neck, a narrow chest, slender form, and high shoulders, or, in the words of Hippocrates, shoulders projecting like wings, and a sanguine disposition. In some instances, however, the skin is dark, and the hair almost black. According to Dr. Withering and Dr. Darwin, the most constant mark of a consumptive habit is an unusual magnitude of the pupil, to which some have added long and dark eyelashes; but this last character seems loose and unestablished. It is a remark far better supported, that the teeth are peculiarly clear, and the eyes exceedingly bright; and that both become more so when the disease has once commenced its inroad; the former assuming a milky whiteness, and the latter a pearly lustre.

Professor Camper, and most physicians with him, affirm that this appearance accompanies all the varieties of the disease; but Dr. Foart Simmons limits it to the tubercular alone, and conceives it to be a distinguishing characteristic of this form of the disease, or of a predisposition to it. And he remarks further, that, of those who are carried off by tubercular phthisis, the greater number will be found never to have had a carious tooth. §

The earliest symptoms of phthisis, in whatever manner excited, are insidious, and show themselves obscurely. The patient is, perhaps, sensible of an unusual languor, and breathes with less freedom than formerly, so that his respirations are shorter and increased in number. He coughs occasionally, but does not com-

GEN. III.

SPEC. V.

Marasmus  
phthisis.Atmosphere of  
contagion  
sometimes  
wide:  
but very rarely  
so.Character of  
consumptive  
diathesis.

Complexion.

Magnitude of  
pupil.

Teeth pearly.

Eyes peculiarly  
bright.Origin and  
progress of the  
disease.

\* Medical Inquiries and Obs. &amp;c. vol. i. 8vo. Phil. 1789.

† Epidem., v. p. 1142.

‡ Chron., Diss. i. 10, 12.

§ Practical Obs. on Consumption. 8vo. London, 1779.



GEN. III.  
SPEC. V.  
Marasmus  
phthisis.  
First stage.

plain of its being troublesome, and rarely expectorates at the same time; yet, if he make a deep inspiration, he is sensible of some degree of uneasiness in a particular part of the chest. These symptoms gradually increase, and at length the pulse is found quicker than usual, particularly towards the evening; a more than ordinary perspiration takes place in the course of the night; and if the sleep be not disturbed by coughing, a considerable paroxysm of coughing takes place in the morning, and the patient feels relaxed and enfeebled. This may be said to form the first stage of the disease: and it is the only hopeful season for the interposition of medical aid.

Second stage.

The malady is now decidedly established; the cough increases in frequency, and from being dry is accompanied with a purulent mucus, varying, according to the peculiar modification of the disease, from a watery whey-like sanies, occasionally tinged with blood, to a sputum of nearly genuine pus: which, as Aretæus has well observed, may be livid, deep black, light brown, or light green; flattened or round; hard or soft; fetid or without smell.\* In many cases it is very scanty; and we may also add, with Aretæus, that, in some consumptions, there is no expectoration at all: for, in the apostematous variety, the sufferer has sometimes died before the vomica has broken. The uneasiness in the chest, only perceived at first on making a deep inspiration, is now permanent, and attended with a sense of weight†; the hectic fever has assumed its full character; the patient can only lie with comfort on one side, which is usually the side affected; and the breathing, as Bennet has remarked, is frequently accompanied by a sound like the ticking of a watch. The strength now fails apace; the pulse varies from about a hundred to a hundred and twenty or thirty; the teeth increase in transparency, and the sclerotica of the eye is

\* In the earliest stage of the disease, according to Dr. Forbes's valuable description, the cough is either quite dry, or attended by a mere watery, or slightly viscid, frothy, and colourless fluid. This, on the approach of the second stage, gradually changes into an opaque, greenish, thicker fluid, intermixed with fine streaks of a yellow colour. At this period, also, the sputa are sometimes intermixed with small specks of a dead white, or slightly yellow colour, varying from the size of a pin's head to that of a grain of rice. After the complete evacuation of the tubercles, the expectoration puts on various forms of purulency; but frequently assumes one particular character, which has always appeared to Dr. Forbes pathognomonic of phthisis, although he says it has been noticed by other pathologists in simple catarrh. This expectoration consists of a series of globular masses, of a whitish yellow colour, with a rugged woolly surface, and somewhat like little balls of cotton or wool. They commonly, but not always, sink in water. They are most common in young scrofulous subjects, in whom the disease is hereditary. At other times, in cases where these globular masses are observed, and also in those in which they have not appeared, the expectoration assumes the common characters of the pus of an abscess, with an occasional tinge of red, and sometimes more or less fetor. See Laennec, by Forbes, note, p. 352. 2d edit.

† The researches of M. Louis tend to support the opinion, that the pain in phthisis depends upon slight chronic pleuritis, which occasion the adhesions found after death, and not upon the tubercles. (Recherches, &c. p. 205.) As, however, one direct effect of tubercles in the lungs is to lessen the capacity of these organs for the air of respiration, and to diminish that surface by which the purposes of breathing are accomplished, it is difficult to conceive this approach to suffocation, slow as it is, unattended with more or less uneasiness and pain. The tubercular matter itself, being unorganised, cannot, of course, be susceptible of pain. — Ed.

nearly-white; "the fingers," to continue the elegant description of Aretæus, as given by Dr. Young, "are shrunk, except at the joints, which become prominent: the nails are bent for want of support, and become painful; the nose is sharp, the cheeks are red, the eyes sunk, but bright, the countenance as if smiling; the whole body is shrivelled; the spine projects, instead of sinking, from the decay of the muscles; and the shoulder-blades stand out like the wings of birds."

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

The third stage is melancholy and distressing, but usually of short duration. It commences with a depressing and colliquative diarrhœa; but, till this period, and occasionally indeed through it, the patient supports his spirits, and flatters himself with ultimate success, while all his friends about him are in despondency, and find it difficult to suppress their feelings. The voice becomes hoarse, the fauces aphthous, or the throat ulcerated, with a difficulty of swallowing. Dropsy, in various forms, now makes its approach; the limbs are anasarcaous, the belly tumid, or the chest fluctuating; and the oppression is only relieved by an augmentation of the night-sweats or of the diarrhœa; for it is generally to be found, that the one set of symptoms is less as the other is greater. "A few days before the patient's death, he is frequently unable to expectorate from apparent weakness, and sometimes dies absolutely suffocated: but much more commonly the secretion of pus, as well as the expectoration, has ceased; as if the capillary arteries had lost their power, or the fluids of the system were exhausted. There is also sometimes a degree of languid delirium for some days, and occasionally a total imbecility for a week or two: though, in general, the faculties are entire, and the senses acute, the patient being perfectly alive to the danger and distress of his situation, and retaining, even when his extremities are becoming cold, a considerable quickness of hearing and feeling. The closing scene is often painful, but it sometimes consists in the gradual and almost imperceptible approach of a sleep which is the actual commencement of death." \*

Third stage.

[One very frequent symptom is not noticed in the preceding account: the editor alludes to a sore oppressive sensation in the throat, attended with a feeling as if an extraneous mass were lodged in the larynx, and generally accompanied by more or less difficulty of swallowing. In numerous cases seen by him, this symptom occurred a few days before death: it depends upon ulceration within the larynx, which is often noticed on dissection.

Morbid appearances in  
larynx and  
trachea.

In the dissections performed by M. Louis, the mucous membrane of the trachea was found either red, or somewhat thickened and softened, in one-fifth of the cases, and ulcerated in rather less than one-third, while the larynx and epiglottis were ulcerated in one-fifth. According to Bayle, the proportion is one-sixth, and to Andral three-fourths. The ulceration of the larynx, and more particularly of the trachea and epiglottis, is deemed by M. Louis peculiar to phthisis. Dr. Bright says, it is generally betrayed by the hoarseness of the voice, and the clanging sound which accompanies the cough. The most usual seat of it, he observes, is immediately below the rima glottidis, where it begins with one or

\* Young on Consumptive Diseases, p. 28.

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

two very small round ulcers, which soon extend, and become irregular in form, assuming the appearance of superficial abrasion. The situation and extent, however, vary a little: sometimes the epiglottis itself is ulcerated, and, occasionally, small independent ulcers take place in the mucous membrane of the trachea, two or three inches below the larynx. When the ulceration in the larynx has taken place early, it has not unfrequently, according to Dr. Bright, drawn the attention both of the patient and the practitioner from the more important seat of disease; for the irritation and uneasiness occasioned by it is more forced upon the attention than the inconvenience and dyspnœa, seldom amounting to pain, which accompany the tubercular deposit in the lungs.\*]

Progress varied  
in different  
cases from  
habit or  
idiosyncrasy.

Sometimes  
peculiarly  
rapid; espe-  
cially in the  
apostematous  
variety.

Has run its  
course and de-  
stroyed in ten  
days.

Such is the common progress and termination of the disease; but it varies considerably in the character and combination of its symptoms, and particularly in the tardiness or rapidity of its march, according to the habit or idiosyncrasy of the individual, or the variety of the disease itself. Where the constitution is firm, and the hereditary predisposition striking, it commonly assumes the apostematous form, and runs on to the fatal goal with prodigious speed, constituting what among the vulgar is called, with great force of expression, a galloping consumption. In this case, the activity of the lymphatic, and, indeed, of every other part of the general system is wonderful: the whole frame is in a state of exultation, and greedily preying upon itself. The animal spirits are more than ordinarily recruited, and all is hope and ardent imagination; the secretions play with equal vigour, and the skin is drenched with moisture; the bronchial vessels are overloaded with mucus, vomica after vomica becomes distended with pus, and the bowels are a mere channel of looseness. The absorbents drink greedily; and animal oil, cellular membrane, parenchyma, and muscle, are all swallowed up and carried away, till every organ† is rapidly reduced to half its proper weight and bulk, and the entire figure becomes a shrivelled skeleton. So swift was the progress of the disease in the case of the Duchess de Picenne, that

\* See Bright's Reports of Medical Cases, p. 149. 4to. Lond. 1827.

† This statement should be qualified: it is true, as Laennec explains, that the greater number of phthisical subjects, before they die, fall into that extreme degree of emaciation, from which the Greeks derived the name of the disease. This emaciation is strongly marked in the adipose cellular membrane and muscles, but, with the exception of the heart, *not at all in the internal organs*. The intestines may appear contracted, but this is chiefly owing to their containing very little air. The brain, nerves, genital organs, spleen, pancreas, and other glands, present no marks of emaciation. The blood-vessels usually seem dwindled, owing to the quantity of the circulating fluid having been reduced by copious evacuations and low regimen. The bones are not at all shortened; but Laennec thought, that he had frequently noticed, in protracted cases, a diminution of their diameter, and their specific gravity is certainly lessened. The narrowness and contraction of the chest are known to every body. (See Laennec, by Forbes, p. 286, 2d edit.) With regard to the heart, the statement of Andral is different from that above given; for, he observes, that although, in several diseases which carry off the patients in a very emaciated condition, the heart partakes of the atrophy of the rest of the muscular system, this is not constantly the case, and the hearts of many consumptive persons, who die in the extreme of marasmus, are quite free from atrophy. If, in such a case, the heart should appear diminished in size, it is because, being empty of blood, it has contracted; its cavities are small, but its parietes are of their natural thickness. Andral, Anat. Pathol., tom. ii. p. 288. — Ed.



M. Portal informs us she died in ten or twelve days from the first alarm.

If, before this, an extensive vomica burst suddenly and with a wide opening into the trachea, or larger bronchial tubes, suffocation follows instantly. If its aperture be small, a purulent matter, often diversicoloured, is expectorated in the course of a violent fit of coughing: the expuition then ceases for a few days, and, at times, with an apparent relief to the patient; but it returns in a short time, and is always ushered by an increase of the febrile state for the preceding four-and-twenty hours. The breath now becomes tainted, and is offensive to by-standers; the appetite is lost, and the lightest foods and most desirable dainties produce a sense of increased languor and anxiety. The patient becomes daily more emaciated: all the symptoms just noticed are exacerbated, till at length a supervening colliquative diarrhœa first diminishes, and then totally suppresses the expectoration, and the sufferer turns himself unexpectedly on his back, and, in a very few days afterwards, draws up his legs, and, in this position, usually expires suddenly.

[A tuberculous cavity sometimes opens into the pleura. In the cases recorded by M. Louis, the rupture was indicated by an instantaneous acute pain at one point of the chest, with dyspnœa and extreme anxiety, followed by the common symptoms of acute pleurisy, and death within a period varying from one to thirty-six days. "In every case of this kind," says Dr. Forbes, "the diagnosis derives unerring certainty from auscultation and percussion." In five of the cases described by M. Louis, the perforation took place opposite the angle of the third and fourth ribs of the left side, and it did the same in a case attended by Dr. Forbes.\*]

On other occasions the march of the consumption is remarkable for its tardiness. This is particularly the case with the tubercular variety, when not quickened in its pace by returns of hæmoptysis. Hoffman gives instances of two or three who lived under the disease for thirty years†: and in the Edinburgh Communications is the case of an individual, who passed nearly the whole of a long life under its influence, who was consumptive from eighteen to seventy-two, and died of the complaint at last. Of two hundred cases, however, selected by M. Bayle, a hundred and four died within nine months, which may hence be regarded as the mean term.

Dissections concur in showing, in almost every instance, an indurated and ulcerated state of the lungs, while the changes thus exhibited vary greatly in the morbid structure they develope; the more obvious of which, though perhaps constituting the two extremes of these changes, are the white and the dark-coloured or hepatised knobs. The first seems to move forward to a state of inflammation with a slow and pausing step, and forms the basis of the tubercular variety before us. The second is more rapid and uniform in its action, and constitutes the catarrhal or purulent

GEN. III.

SPEC. V.

Marasmus  
phthisis.

Suffocation  
upon the burst-  
ing of a large  
vomica.

If the aperture  
small, death less  
sudden, but  
equally certain.

Bursting of  
tubercular  
excavations  
into the pleura.

Sometimes  
remarkably  
tardily: especi-  
ally in the  
tubercular  
variety.

Observations  
on dissections.

White and  
dark-coloured  
knobs.

The first in-  
flame slowest.

\* See Lænnec, by Forbes, p. 341.; and Louis sur la Phthisie, ch. vii. p. 416.

† In 1828, a person, named Robert Jeffries, aged 56, died in the Fleet prison, who had had a cough and shortness of breath for thirty years, and whose lungs were found, after death, filled with tubercles and abscesses. — Ed.

## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

Both often met  
with in com-  
bination.

Tubercles, the  
character of.

Tubercles,  
what, as they  
appear on dis-  
section.

This variety  
not strictly a  
serofulous  
disease ;

modifications. While, not unfrequently, we meet with both these appearances intermixed in every possible proportion. Yet we perceive, concurrently with the diagnostics of the disease, that its most frequent form is the tubercular; so much so, indeed, that M. Laennec has confined his attention to this variety alone, and will hardly admit of any other.\* The tubercles are found indiscriminately in all parts of the cellular texture of the lungs, but more abundantly at the upper and posterior parts. As already observed, they exhibit every diversity of size; are often very minute, but more generally consist of those circumscribed nodules or indurations which Wesser has called *grandines*. They are whitish and opaque, like small absorbent glands, but sometimes more transparent, like cartilage, with black dots in their substance. They augment by degrees till they are half an inch or more in diameter; but in general, when they have acquired the size of large peas, they begin to soften in the centre, and then open by one or more small apertures into the neighbouring bronchiæ, or remain for a longer time closed, and constitute small *voniceæ*, containing a curdy half-formed pus. Occasionally, as we have stated, they are found to unite into large abscesses.† [Whatever be the form under which the tubercular matter is developed, it presents at first, according to Laennec‡, the appearance of a grey semi-transparent granulation, which gradually becomes yellow, opaque, and very dense. Afterwards it softens, and gradually acquires a fluidity nearly equal to that of pus. It is then expelled through the bronchiæ, and cavities are left, vulgarly called *ulcers of the lungs*, but which Laennec designated *tubercular excavations*.] Now as we have before observed from Dr. Baillie, that nothing like a gland is to be found in the cellular membrane of the lungs in a sound state, constituting the seat of these tubercles§, and as

\* De l'Auscultation Médiée; ou Traité du Diagnostic des Maladies des Poumons, &c. 2 tomes. Paris, 1819.

† Young, ut supra. Portal, Observations sur la Nature et le Traitement de la Phthisie. Bayle, Recherches sur la Phthisie Pulmonaire. Par. 1810.

‡ On Diseases of the Chest, by Forbes, 2d edit. p. 272. Andral objects to Laennec's view, that if a tubercle necessarily began, as a greyish semitransparent granulation, this would be found in every situation where tubercles are met with. But, he asks, have such granulations ever been noticed in lymphatic glands, in which a tubercle can be examined in every stage of its progress? Have they ever been seen in the brain, liver, spleen, or the cellular tissue under mucous or serous membranes, or between the muscles? The small, greyish, irregularly globular bodies, dispersed sometimes over the free surface of serous membranes, he contends, are as different as possible from ordinary granulations of the lungs. As for the greyish granulations, sometimes noticed on the surface of mucous membranes, they seem to Andral to be merely enlarged follicles. At the same time, he admits that tubercular matter may be formed within granulations of the lungs. Anat. Pathol., tom. i. p. 411. — Ed.

§ This doctrine does not coincide with Andral's observations, whose researches lead him to consider tubercles as a secretion, which may take place indifferently, either in the ultimate bronchial tubes and air-cells, in the cellular tissue interposed between these, or in the interlobular cellular texture. He inclines to the opinion, adopted also by Professor Carswell, that the tubercular matter is at first liquid, and afterwards becomes solid; and that a congestion, and even inflammation, are often concerned in giving rise to their production. "Observation proves," says he, "that the tubercular matter may be deposited on the surface of the mucous lining of the bronchiæ or air-cells, or in the cellular tissue uniting together the different parts of the lung. M. Magendie, and subsequently M. Cruveilhier,

scrofula selects for its abode a glandular structure, tubercular consumption cannot perhaps with strict propriety be called a scrofulous disease: yet as the untempered fluid contained in the tubercles resembles that of scrofula, and, more especially, as this variety of consumption is very generally found in constitutions distinctly scrofulous, the analogy between the two is extremely close, and has often led to a similar mode of treatment. M. Portal, indeed, contends that glands exist in great numbers through the whole structure of the lungs, but rather from analogy than from demonstration. And to the same effect M. Laennec: "The tubercles in the lungs," says he, "differ in no respect from those situated in the glands; and which, under the name of scrofula, after being softened and evacuated, are often followed by a perfect cure." Here, however, the hollows are not incased or filled up with a new material, but have their surfaces covered with a semi-cartilaginous membrane, which, as they thus heal, leave as many sound fistulæ as there were formerly tubercles.\*

In some cases, proper abscesses or larger vomicæ are found without any trace of tubercles; and especially when the disease has rapidly followed peripneumony, or taken place in persons of robust or plethoric habits. And when the catarrhal symptoms have been striking, and, in the increasing hoarseness and free discharge of muculent pus, have evinced extensive inflammation on the surface of the trachea, M. Portal has found the whole extent of the tube lined by a crust resembling bone. In some instances, the lungs, from the accretion of new matter, have weighed not less than five or six pounds, which is nearly four times their ordinary weight; but, in others, they have been so reduced as, in the language of the same writer, to leave "a vacant space" in the chest; or, in that of M. Bayle, "to be shrivelled into leather." On this account, breathing would be impossible, if it were not that the lungs in a state of health are capable of containing ten times as much air as is received by an ordinary act of inspiration; and hence are capable of losing a very large portion of their capacity without suffocation. In some cases, one lung has been entirely destroyed, and the office of respiration maintained by the remaining lung alone for many years.† In other cases, blood, and even pins, have been thrown up from time to time, in considerable quantities, without the least trace of ulceration, or breach of continuity in the membrane, or any part of the structure of the lungs.‡

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.  
but closely  
analogous.

Apostemes  
found on dis-  
section.

Catarrhal in-  
flammation  
found on dis-  
section.

Weight of the  
lungs some-  
times greatly  
increased:  
sometimes  
reduced, and  
the organ  
shrivelled.

promulgated the opinion, that tubercular matter might be formed in the ultimate ramifications of the bronchiæ; and Andral confirms its truth by various facts, and, amongst others, by the appearances found in the lungs of a glandered horse. Andral also proves, by dissection, that tubercles may sometimes occur primarily in the lymphatic glands within the lungs; and he relates two rare instances, in which the tubercular matter filled the superficial lymphatic vessels of the lungs, and, in one of the cases, the lymphatics of other parts, and likewise the thoracic duct. (See *Clinique Méd.*, tom. iii. p. 13—20.) The corroboration of Andral's views by Professor Carswell's observations, as given in his *Illustrations of the Elementary Forms of Disease*, fasc. i., has been noticed in the foregoing pages.  
— Ed.

\* De l'Auscultation Médiate, &c. ut suprà.

† Boneti Sepulchr., lib. i. sect. ii. obs. 167. Parotti, *Raccolti d'Opuscoli Scientifici*, xvi. p. 275.

‡ De Haen, *Ratio Med.*, i. xi. p. 60. Willan's Reports, 1796, March 20.



## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

Parts of the  
lungs affected  
in succession.

[Laennec has particularly invited the attention of practitioners to the successive developement of tubercles in different parts of the lungs, as very important in a therapeutical point of view. Tubercles, he says, begin to show themselves, in the first place, almost always in the top of the upper lobes, more particularly the right; and it is in these points that tubercular excavations of large size are most commonly met with. M. Louis coincides with Stark in stating, that such excavations are nearer the posterior, than the anterior part of the lungs. According to Laennec, it is by no means unfrequent here to meet with cavities of this kind, when the rest of the lungs is quite sound, and does not contain a single tubercle; but, in this class of cases, the symptoms have only been equivocal, and the patient has died of some other disease. It is much more usual, however, to find one single excavation, and several crude tubercles, in a pretty advanced state, in the upper part of the lungs; and the remainder of these organs, though still crepitous, and in other respects sound, crowded with innumerable tubercles of the miliary kind, extremely small, semi-transparent, and hardly any of them with the yellow speck in the centre. This secondary crop of tubercles, Laennec represents as being produced about the time when the first set begin to be softened. A third still later crop, composed of crude miliary tubercles, with some yellow points in their centre, is situated still lower; and, finally, the basis and inferior edge exhibit the most recent formation of all.\*

Whether the  
right or left  
lung is most  
frequently  
diseased?

The preceding account, given by Laennec, of the greater frequency of tubercles in the right than the left lung, does not agree with the statements of other distinguished pathologists. Of thirty-eight cases, in which M. Louis found one upper lobe wholly disorganised, twenty-eight were on the left side; of eight cases of perforation, seven were on the left side; and of the seven cases in which the tubercles were confined to one lung, five were on the left side.† According to Stark, the left lungs are more frequently affected than the right; an observation agreeing with the researches of Dr. C. Smyth.‡ The secondary production of tubercles is not confined to the lungs; and, at the period when the first crop is being softened, others make their appearance in various other organs. In fact, it is observed by Laennec, that it is very rare in phthisical subjects to find these bodies only in the lungs; they almost always exist at the same time in the coats of the intestines, where they give rise to ulcers, which become the cause of the colliquative diarrhœa so often accompanying phthisis.§ With respect to the origin of intestinal ulcers, as described by Laennec and Dr. Bright, Andral admits, that it may be the case in some instances, but, he contends, that it is not so in all; for he has examined the bodies of several phthisical subjects, where the intestines presented an infinite number of ulcers, yet without any appearance countenancing the idea, that they had originated in tubercles under the mucous membrane.|| In five-sixths of the cases ad-

In phthisis the  
intestines be-  
come tuber-  
culated.

\* Laennec on Diseases of the Chest, p. 282, 2d edit.

† Recherches sur la Phthisie Pulmon., p. 7. et seq.

‡ See note by Forbes in Laennec, p. 283.

§ Op. cit., p. 284.

|| G. Andral, Anatomie Pathol., tom. ii. p. 95.

verted to by M. Louis, the small intestines were more or less ulcerated. The ulcers were also nearly as frequent in the large intestines, the whole, or a great portion of the mucous membrane of which, in one half of the cases, although often red and thickened, was as soft as mucus. In only three cases, did M. Louis find the large intestines universally healthy.\* In sixty-seven cases out of a hundred, Bayle also found the intestines in a state of ulceration; while Andral's dissections confirm all these reports by the fact, recorded in his most valuable work, that the intestines were perfectly sound in only one-fifth of all the numerous cases under M. Lermnier in La Charité.† The morbid changes in the mucous membrane of the intestines in phthisis are particularly noticed by Dr. Bright. They are denoted, he says, by unequivocal symptoms during life, and are traced in two different forms after death; "sometimes giving proof of a diffused irritation along the whole membrane from the pylorus to the termination of the rectum, evinced by increased vascularity, or by the appearance of innumerable minute black specks, which give a general grey colour to all the parts where they are most frequent; and sometimes affording evidence of a more severe affection, by the formation of numerous ulcers, which are found sometimes in the upper part of the duodenum, frequently dispersed along the whole course of the small intestines, but usually most abundant about the valve, and through the whole extent of the colon. These ulcers, as found in the small intestines, are usually, in the first place, very small and circular, and appear to originate from round, opaque, white bodies, about the size of half a sweet pea; but, whether these are altogether morbid tubercles, or are only enlarged mucous glands, it is no easy matter to decide. Certain it is, that they are most generally placed in that part of the circumference of the intestines, which is most distant from the mesentery, and where the mucous follicular structure is most developed."—The ulceration of the large intestines is, according to Dr. Bright, most conspicuous about the cæcum and valve of the colon, where it also begins, as in the small intestines, by opaque deposits; but the disease proceeds to a much greater extent, sometimes involving the cæcum in one continued ulcer, and occasionally, though rarely, affecting the lining of the vermiform process itself. In the colon, the ulcers are generally oval, with elevated edges, and more or less distributed along the sides of the longitudinal bands. They are fre-

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Morbid ap-  
pearances in  
the intestines  
described.

\* Louis, *Recherches Anat. Pathol. sur la Phthisie*, p. 175. Paris, 1825.

† Andral, *Clinique Méd.*, tom. iii. p. 205. In his latter publication, he remarks, that, in phthisis, the digestive canal is so commonly unsound, that this state may be considered, in some measure, as one of the elements of phthisis, and almost a constituent part of it. In about four fifths of consumptive patients, who die in an advanced stage of this disease, the intestines are found seriously affected. Ulcerations are the most common change in them, and ordinarily situated at the end of the small intestine, and in the cæcum. Varying in number, shape, and size, and occupying (though not constantly) the follicles of Peyer, they are produced most frequently without pain, and occasion merely a more or less copious looseness. Even in the very commencement of phthisis, it is not uncommon to observe slight marks of intestinal irritation; alternations of constipation and diarrhoea, the latter gradually becoming permanent, like the lesion on which it depends. (*Anat. Pathol.*, tom. ii. p. 222.) The great opportunities which I have had of observing the progress of phthisis in the branches of the public service with which I am connected, lead me to recognise fully the truth of these valuable observations. — ED.

GEN. III.  
SPEC. V.  
Marasmius  
phthisis.

frequently found as low as the sigmoid flexure, and sometimes even in the rectum. They appear to Dr. Bright occasionally to undergo a healing process, their tubercular edges becoming softened down, and their flattened edges adhering to the parts denuded by ulceration; but he states that this is not a frequent occurrence, because the more usual course of phthisis is to go on from worse to worse till it terminates in death; and little attempt is made by practitioners to change the condition of the intestines, while they consider the more urgent disease to be in another organ.\* Sometimes, when phthisis is accompanied by numerous ulcerations of the intestinal canal, one of them makes its way completely through the bowel, and the immediate cause of the patient's death is peritonitis.† The inflammation, thus excited in the peritoneum, is generally acute and rapidly fatal; but sometimes of a chronic character, with symptoms of slower progress. Thus, Andral says, he can never forget the case of a consumptive young man, from whose navel, one day, an *ascaris lumbricoides* was discharged. He lived several weeks after the occurrence, the fistulous opening daily emitting a small quantity of matter resembling what the intestines usually contain. Examination of the body after death disclosed the existence of chronic peritonitis, with numerous pseudo-membranes, between which were formed several worms of the above kind, floating in the extravasated matter, some of which issued from the navel every day.‡

Morbid appearances of the stomach, absorbent glands, and brain.

Besides the morbid appearances, already mentioned as often complicating phthisis, are to be enumerated, a softening of the mucous coat of the stomach, and frequently a general attenuation of all its coats; but, according to Andral, it is not usual to meet with ulcerations, or tubercles in it §, an increased vascularity and softened state of the brain, and disease of the absorbent glands of the bronchiæ and mesentery. In phthisical persons, the cartilages of the ribs and larynx are observed to become prematurely ossified. ||

Pus and mucus how distinguishable: but the distinction of no great importance.

Many ingenious experiments have been invented to distinguish between pus and mucus, in order to determine the actual nature of the disease. Such trials may gratify the curiosity of the pathologist, but from the variable and frequently complicated nature of the expectoration, as well in the most dangerous as in the earlier stages of the complaint, we can derive little assistance from this distinction. Mr. Hunter, as a test, employed muriate of ammonia, having observed that a drop of pus united with a drop of this fluid is rendered soapy, while neither blood nor mucus is affected by it. ¶

Hunter's test.

Darwin's.

Mr. Charles Darwin —

*Heu miserande puer ! si quâ fata aspera rumpas  
Tu Marcellus eris —*

proposed a double test of sulphuric acid, and a solution of pure potass. If, on the addition of water to pus dissolved in each of these

\* See Bright's Reports of Medical Cases, p. 151. 4to. Lond. 1827.

† G. Andral, Anat. Pathol., tom. ii. p. 106.

‡ Op. cit., vol. cit. p. 114.

§ Andral, Anat. Pathol., tom. ii. p. 222.

|| Andral, Anat. Pathol., tom. i. p. 300.

¶ See Apostema Commune, vol. ii. p. 303.



separately, there be a powerful precipitation, the matter made use of is determined to be pus: if there be no precipitation in either, it is mucus. But the simplest and truest character of pus, as was first observed and described by Sir Everard Home, is, that it is a whitish fluid composed of globules contained in a transparent liquid: that it does not coagulate by heat; and is only condensed by alcohol. The presence of the globules, as remarked by Dr. Young, may be easily determined by putting a small quantity of the liquid between two pieces of plate-glass. If it be pus, we shall perceive, on looking through it towards a candle placed a little way off, the appearance, even in the day-time, of a bright circular corona of colours, of which the candle will be the centre; a red area surrounded by a circle of green, and this again by another of red; the colours being so much the brighter, as the globules are more numerous and more equable. If the substance be simply mucus, there will be no rings of colours; though a confused coloured halo may sometimes be perceived by the mixture of mucus with blood or some other material.

As, however, consumption is by far more frequently a tubercular, than a strictly purulent disease, and, perhaps, more generally fatal under the former, than under the latter modification, the distinction here sought for is of less importance. It is of more consequence to ascertain, whether morbid excavations from any cause, ulcerative or tubercular, have taken place at all; and to this point the attention of physicians has been peculiarly directed, for the purpose, if possible, of obtaining a criterion.

It is now well known, that M. Avenbrugger of Vienna suggested, more than half a century ago, the possibility of determining whether there were such morbid hollows, or other diseased condition of the chest, by the means of percussion by the hand\*: and that M. Corvisart was so much impressed with the importance of the suggestion, that he not only translated Avenbrugger's work on the subject from the German into the French tongue, but recommended his method warmly in his Clinical Lectures, and employed it so generally in his practice as to obtain for it a considerable degree of reputation. There is no doubt of its giving us a correct information at times: but the whole process is accompanied with difficulties which we shall notice presently, and its application is also of limited use. To remedy these evils, M. Laennec, from an early period of his life, conceived it possible to attain the same end, and with much greater exactness, by an acoustic instrument.† His

GEN. III.

SPEC. V.

Marasmus  
phthisis.

Home's definition.

Young's test.

Of importance to determine whether morbid hollows have taken place. Sundry instruments applied for this purpose.

Avenbrugger's percussion scheme.

Warmly supported by Corvisart.

Limited power of application remedied by the stethoscope of Laennec.

\* *Inventum Novum ex Percussione Thoracis Humani, ut signo, abstrusos interni pectoris morbos detegendi.* Viennæ 8vo. 1761.

† *De l'Auscultation Médiate, ou Traité du Diagnostique des Maladies des Poulmons et du Cœur*, 2 tom. 8vo. Paris. 1819. Two years previously, M. Donble had brought out his *Seméiologie Générale*, in which he mentions auscultation as a method peculiar to himself. (See tom. ii. p. 31.) In the history of auscultation is a curious passage in Hook's *Posthumous Works*, p. 39, who, though not of the medical profession, actually foretold, as Dr. Elliottson has observed, the invention and uses of the stethoscope. The following short biographical notice of Avenbrugger is from the pen of Dr. Forbes. — Avenbrugger was born at Graetz in Styria, in 1722. He graduated at Vienna, and afterwards became physician in ordinary of the Spanish nation, in the Imperial Hospital in that city. In Ersch and Puchelt's *Literatur der Medicin*, he is recorded as the author of two other works, relating to madness, one in Latin, published in 1776, and the other in German, in 1783. In the same record, Avenbrugger is stated

## GEN. III.

## SPEC. V.

Marasmus  
phthisis.First hint upon  
this subject.Progress of the  
suggestion.Form of the  
cylinder.

Stethoscope.

Mode of ap-  
plication.Effect in  
health.Singular effect  
in unsound  
lungs or other  
thoracic organ.Pectoriloquism  
or mediate  
auscultation of  
the voice.Applied in  
peculiar cases  
of respiration ;  
and of the  
heart.How modified  
for these  
purposes.

mind was directed to the fact, that if the ear be applied to one end of a beam of wood, we may distinctly hear the scratch of a pin when made at the other end : and, taking advantage of this hint, he first made a roll of a sheet of paper wound up close, and well tied, when "applying," says he, "one end of it to the region of the præcordia, and placing the ear at the other end, I was as much surprised as gratified on hearing the heart beat more clearly and distinctly, than I had ever done by a direct application of the ear itself." And, hence, he foresaw that the same instrument might also be employed to ascertain a variety of modifications in the pulsation of the heart and the larger arteries.

Having experimented upon a series of substances, he found that bodies of such a density as folded paper, wood, or cane, were best calculated for the purpose ; and he at length fixed upon a cylinder of wood of a foot long, and an inch and a half in diameter, with a bore or canal in the centre three lines in diameter. To render this instrument more portable, he made it divisible in the middle, like a German flute, the parts, however, being united by a screw.

When this cylinder, to which he gives the name of a STETHOSCOPE, is applied to the chest of a healthy person in the act of speaking or singing, nothing is heard but a kind of low murmuring, more distinct in some parts of the chest than in others : yet where an ulcer or other morbid excavation exists in the lungs, a very singular change takes place ; for the voice of the invalid is no longer heard by the disengaged ear, but comes entire to the observant ear that is applied to the end of the cylinder opposite to that affixed to the chest. This phenomenon M. Laennec ascribes to the greater degree of strength, which the vocal sound exercises in a cavity of wider calibre than the bronchiæ themselves. And the opinion is rendered probable as the same phenomenon occurs when the cylinder is applied to the trachea or larynx. To this apparent transfer of the voice to the chest, the experimenter has given the awkward name of *pectoriloquism*, or *mediate auscultation of the voice*. And as the same instrument, or with slight variations, is capable of determining the morbid changes that take place in the breathing or contraction of the heart, he hence employs it in like manner to obtain a *mediate auscultation of the respiration*, or of the *pulsation of the heart*, or the *aorta*. For the first of these two purposes, however, the canal should be gradually widened at the end applied to the chest, in a funnel-form, to an ascent of about an inch, and then suffered to return suddenly to its general calibre. For the second purpose, the canal should be entirely obliterated, which may be easily done by a plug of the same kind of wood ; the pulses being propagated through the cylinder by vibratory chords.\*

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to have died so late as the year 1809, in the 87th year of his age. The *Inventum Novum* was first translated into French in 1770, by Rozière ; but the subject attracted little attention till a second translation was published by Corvisart in 1808. The only English translation came out in 1824, with a *Selection of Corvisart's Commentaries*, and additional notes. See *Original Cases, &c.*, by John Forbes, M.D., 1824 ; and art. *AUSCULTATION*, in *Cyclopædia of Pract. Med.* — Ed.

\* De l'Auscultation Médiate, ou Traité de Diagnostique des Maladies des Poumons et du Cœur, &c. Par R. T. H. Laennec, M.D., &c. 2 tomes. Paris,

PERCUSSION and AUSCULTATION are used simultaneously by many physicians in France; they were so by Laennec himself; and their comparative pretensions have been ably estimated in the same country by Dr. Colin\*, as they have in our own by Dr. Forbes.†

The diseases, in which the former method is chiefly employed, are plithisis, dropsy of the chest, chronic pleurisy, chronic peripneumony, emphysema of the lungs, pneumo-thorax, or a morbid communication of the interior of the lungs with the thoracic cavity, and hypertrophy of the heart, or a morbid enlargement of its substance.

In the use of this kind of exploration, the patient should be in a sitting posture, the points of the fingers brought close together may be employed, or the flat of the hand, and either upon the naked chest or with the body-linen drawn tight over it. The action of percussion is applied, as circumstances may direct, to the fore-part of the chest, the sides, or the back. In the first of which cases, the patient is to hold his head erect, and throw back his shoulders, that the chest may be protruded, and the skin and muscles drawn tight over its bones, by which the sound is rendered most distinct. In striking the lateral parts of the chest, the patient is to hold his arms across his head, so that the walls of the thorax may become tense, and the sound rise distinct, as in the former instance. If the back be operated upon, the patient is for the same reason to bend forward, and draw his shoulders towards the anterior part of the chest, hereby rounding the dorsal region. The degree of percussion is to be varied according to the subject and the place; so that a more powerful impulse is to be employed in a fat or robust, than in a slender and emaciated subject; for the stroke that is sufficient to educe a clear sound in the latter case, may draw forth none in the former.

The amount of the sound must depend upon the general sum of the hollow contained in the chest, as in striking a cask, to which M. Avenbrugger very forcibly compares it. And hence, to determine whether this amount be more or less than it ought, it is necessary we should become first acquainted with its character in a healthy state, and accustom ourselves to the percussion of those who are well. Its changes from this standard are of three kinds: it may be greater or stranger than natural; dull or obscure; or totally wanting. The first takes place where the cavity or hollow is enlarged, as in emphysema of the lungs, which, so to speak, resemble a cask comparatively empty, or rather containing a large volume of air: the second in cedema of the lungs, severe catarrh, or the earlier stage of peripneumony; in which the interior is more than usually occupied with dense matter: and the third in a tuber-

GEN. III.

SPEC. V.

Marasmus  
phibisis.Percussion and  
auscultation  
employed si-  
multaneously.In what disease  
percussion is  
chiefly em-  
ployed.How to be  
applied.To what parts  
to be applied.Amount of the  
sound, how  
measured.Changes from a  
state of health  
of three kinds.Stronger than  
natural.Dull or ob-  
scure.Totally want-  
ing.

1818. For a particular description of the construction of the stethoscope, consult Dr. Williams's Rational Exposition of Physical Signs, ed. 2, 1833. The best maker of stethoscopes that he has been able to meet with, is Grumbridge, turner, 42, Poland Street, Oxford Street. — Ed.

\* De Diverses Méthodes d'Exploration de la Poitrine, et de leur Application au Diagnostic des ces Maladies. 8vo. Paris, 1821.

† Original Cases, with Direction and Observations illustrating the use of the Stethoscope and Percussion, &c. 8vo. London, 1821.



## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

Difficulties  
appertaining to  
percussion.

culated or hepatised state of the lungs, or when they are crowded with any other morbid secretion or induration, so as to be choked up, and leave no room for resonance.

The chief difficulties, attending the diagnostic of percussion, are the long habit required for its use before it can be employed with any advantage, and the peculiar tact or address with which the stroke must be applied to produce its proper effect: the limited power of our having recourse to it in many cases of females, on the score of delicacy; and its occasional uselessness, perhaps deception, in other cases. Thus it is altogether unavailing in patients possessing much corpulency; and, although it affords a pretty clear indication in hydrothorax, when the chest is but partially loaded, and, in peripneumony, before suppuration has taken place; yet as no sound is yielded when the chest is quite full of fluid, and a very different sound to what was at first elicited when a vomica has burst, both these diseases may be mistaken in their most important stage. In nervous coughs, asthmas, dyspnœas, and polypous concretions about the heart in young subjects, M. Avenbrugger himself admits the total inefficiency of his method.

Mediate aus-  
cultation  
possessed of  
superior ad-  
vantages.

When employ-  
ed as a test of  
the voice, it  
gives various  
distinct mea-  
sures: reson-  
ance: pectori-  
loquism:  
ægophonism:  
metallic tink-  
ling.  
Indications of  
these.

The diagnostic of AUSCULTATION has some advantage in most of these respects. It is employed, as we have already observed, for three distinct purposes; as a test of the VOICE, of the RESPIRATION, and of the ACTION OF THE HEART AND AORTA.

When employed for the first purpose, or that of determining the state of the voice, it affords, under different circumstances, four different kinds of measure: as that of its degree of intensity, which M. Laennec has denominated *resonance*; its articulation, to which, as above stated, he has given the name of *pectoriloquism*; its suppression, or under-tone, which, from its supposed resemblance to the voice of goats, he has called *ægophonism*; and its vibratory clink, distinguished by the name of *metallic tinkling*. The first of these tests, when existing in a higher tone than natural, is supposed, for the most part, to indicate a certain degree of induration in the substance of the lungs. The second, or that of pectoriloquism, we have already noticed: it is a measurer of tubercular excavations communicating with the bronchia. The third indicates, in the opinion of M. Laennec, a flattening of the bronchial tubes. And the fourth a morbid communication of the interior of the lungs with the cavity of the chest.

Use as a test of  
respiration.

Developes its  
intensity:

forming  
Laennec's  
puerile or  
tracheal breath-  
ing.

Developes its  
weakness or  
absence:

Where the stethoscope, or chest-sound, is employed as a measure of the RESPIRATION, it runs parallel with the modifications of percussion, and determines its intensity, its atony, and its absence; and detects also its combination with foreign sounds. Under the first modification it strikes the ear like the strong and sonorous breathing of children, into which the action of the trachea greatly enters; and on this account, the present modification is distinguished by M. Laennec by the name of *puerile*, or *tracheal*. It occurs especially in cases in which an entire lung, or a considerable portion of both, is rendered impervious to air, and particularly in acute diseases. The modifications of a *weak* or *absent* respiration upon the use of the cylinder indicate a general obstruction in the respiratory organ, and only vary in the degree or extent of such morbid change; and hence, as in the parallel modifications of percussion, they become tests of certain different stages of hydro-

thorax and peripneumony. The *foreign sounds* with which the cylinder detects the respiration to be occasionally combined, are various kinds of *râle* or *rattle*, to which the inventor of the present method has given the name of *crepitous*, and *subcrepitous*, *mucous*, *sonorous*, *sibilous*. The first, or *crepitous rattle*, is denominated from its resembling in sound the crepitation of salt in a heated vessel, or that emitted by frying butter. It is supposed to be a pathognomonic sign in peripneumony on its first attack, and occurs sometimes in hæmoptysis. The *subcrepitous* is an under-sound of the same kind, and indicates an edematous state of the lungs. The *mucous rattle* is that peculiar kind of stertor called "the dead rattles" by the vulgar of our own country, though in a less degree of intensity. It is produced by a transmission of the breath through fluids accumulated in the trachea or bronchiæ, and measures the extent of such accumulation in catarrhal phthisis, hæmoptysis, and other important diseases. The *sonorous* and *sibilous* rattle are of less importance as diagnostics, and exhibit considerable ramifications in their character. The former gives sometimes a loud, and sometimes a deep snore, and sometimes the cooing of a wood-pigeon; the latter consists of a whizzing, or whispering tone, or of chirping like that of birds, often alternately ceasing and renewing its murmur. Both descriptions indicate some partial obstruction of the bronchial tubes; the latter perhaps of the smaller cells.

But the method of mediate auscultation is also employed to determine the degree of the **STRENGTH AND ACTION OF THE HEART**. And it is supposed to do this in four distinct ways: by measuring the extent of the pulsation; its shock or impulse; its sound; and its rhythm.

In a healthy person, of moderate stoutness, and well proportioned heart, the action of this last organ, upon an application of the stethoscope, is not found to **EXTEND** beyond the range of the cardiac region, or the space comprised between the cartilages of the fifth and seventh ribs, and under the lower end of the sternum. It is, however, often traced, in a state of disease, through the whole of the left, or the right side of the chest, as well as in the region posterior to them: which is generally owing to the feebleness of the heart, and the extenuation of its walls. It may therefore be taken as a general rule, according to M. Laennec, that a perceptible extent of the heart's action is in the direct ratio of its thinness and weakness, or inversely to its substance and power. A wide range of sound is often, indeed, traced when the heart is enlarged; but in this case its walls are often morbidly slender; and the enlargement consists in a mere dilatation of its ventricles. And hence this diseased extent of action is often traced in particular kinds of a hypertrophy of the organ.

The heart is also frequently found to be hereby affected in the **SHOCK OR IMPULSE** of its stroke. The stouter and thicker the walls of the heart, the more violent is the impulse, inasmuch that, as we have already had occasion to observe, the bed-clothes have sometimes been seen to be hereby elevated. This impulse is peculiarly caught hold of by the stethoscope: and is in some cases so energetic as even to lift up the observer's head, and to give an unpleasant shock to his ear. In proper hypertrophies, therefore, or such enlargements of the heart as are opposed to the preceding, in

GEN. III.

SPEC. V.

Marasmus  
phthisis.Developes a  
combination  
with other  
sounds;  
as the rattle;Crepitous  
rattle.Subcrepitous  
rattle.Mucous rattle,  
or dead rattles  
of the vulgar;Sonorous and  
sibilous rattle.Developes the  
strength and  
action of the  
heart;  
in four distinct  
ways.Measures the  
pulsation as to  
its extent.Measures the  
pulsation as to  
impulse.



## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

Measures the  
pulsation as to  
sound.

Variation of  
the sound in  
extent.

Variation of  
the sound in  
intensity.

Variation of  
the sound as  
combined with  
a peculiar hiss-  
ing; or with a  
noise like that  
of a rasp: or  
like that of new  
leather.

Measures the  
pulsation as to  
its rhythm.

General advan-

which the natural cavities are not much interfered with, and the augment consists altogether in a thickening of the parietes, we have reason to expect the present effect; which, in like manner, becomes a pathognomonic sign of such a disorder, and indicates its existence.

The stethoscope, also, measures the SOUND of the heart's pulsation. When the action of the heart is peculiarly violent, as in vehement palpitations, the individual himself becomes sensible of a peculiar sound, as well as of an increased impulse; and it has, indeed, in a few rare cases, been heard at a distance from the patient's person. Now, the application of the stethoscope heightens the sound of the pulsation considerably at all times, insomuch that, in its ordinary tenour of health, it communicates a certain degree of sonorous vibration, which cannot be perceived otherwise; the sound, however, produced by the contraction of the ventricles, and which is accompanied by the stroke of the pulse, being much clearer than that produced by the contraction or systole of the auricles, so that there is at all times to the ear of the experimenter a double or alternate sound, consisting of a louder volume succeeded by a lower. The seat of this double sound, in a state of health, is the cardiac region, to which it is limited; but in a state of disease it spreads much wider, and is heard distinctly in other places. The sound, moreover, varies from the standard of health both in intensity and in hebetude. Where the diameter of the heart is enlarged by a dilatation of its cavities, whilst its walls are weakened and rendered thinner, the sound is loud and distinct; but where, on the contrary, its walls are considerably thickened and enlarged, the cavities remaining but little disturbed, the sound is morbidly dull or obscure; and where the same organic thickening exists in considerable excess, the contraction of the ventricles produces a mere shock or impulse without any sound whatever.

The sound, moreover, is not only varied in its intensity, but in its vibration from a natural state. It is sometimes accompanied with a peculiar hissing, like that of a pair of bellows, and is in this state either continuous or intermittent, indicating, according to M. Laennec, a spasm or some other temporary and partial obstruction of the first organs of the circulating system. At other times, the accompanying noise is like that of a rasp or file; which is always permanent, and evinces a permanent obstruction in some of the orifices of the heart. And in one or two instances, Dr. Colin has observed it combined with a crackling like that of new leather, which he supposes to be a pathognomonic indication of an inflammation of the pericardium, from his having traced this affection in a person who died during its existence.

The stethoscope is also supposed to detect in a peculiar degree the RHYTHM or relative duration and succession of the ventricular and auricular contractions. These are sometimes alternated with considerable but irregular intermissions, and sometimes far too rapid in their succession: both which changes from the rhythm of health indicate that kind of organic affection, which is dependent upon delicacy of constitution, and is often congenital. They do not, however, augur the existence of any dangerous or even very serious malady.

It appears from this general outline, that the method of MEDI-



ATE AUSCULTATION may be advantageously applied in one or all its forms to a detection of various important diseases of the chest, and especially to the different varieties of phthisis: that it may be more generally employed than that of percussion, since corpulency will seldom prove a bar to its use; and that it is often more definite in its results.\*

Notwithstanding, however, all the ingenuity that it evinces, it must often be found an imperfect guide in deciding on the actual state of a disease, or even indicating the disease itself, to say nothing of the long and repeated experience which is absolutely necessary to its being employed with precision. For, first, it gives us a very doubtful kind of information concerning the existence of tubercles or *verrucae* till they have actually broken, and produced numerous excavations, and consequently is of little use in the earlier stages of the disease.† Next, as it has been observed

\* For an extensive practical application of this method, see Andral's *Clinique Médicale, ou Choix d'Observations Recueillies à la Clinique de M. Lermnier; Médecin de l'Hôpital de la Charité, Deuxième Partie, Maladies de Poitrine*, 8vo. Paris, 1821; also Colin, *des Diverses Méthodes d'Exploration de la Poitrine*, &c. 8vo. Paris, 1821. John Forbes, M.D., *Original Cases, with Dissections and Observations, illustrating the Use of the Stethoscope and Percussion in the Diagnosis of Diseases of the Chest*, &c. 8vo. 1821. P. A. Piorry, *de la Percussion Médiate, et des Signes Obtenus à l'aide de ce Nouveau Moyen d'Exploration dans les Maladies des Organes Thoraciques et Abdominaux*, 8vo. 1828. Lisfranc, *Mém. sur des Nouvelles Applications du Stethoscope*, 8vo. Paris, 1824. J. Hope, M.D., *on the Diseases of the Heart and Great Vessels*. Lond. 1832. John Elliotson, M.D., *on Diseases of the Heart*, fol. — Ed.

† The following information is derived from Professor Elliotson's Lectures:— It is only when the tubercles increase to a certain size, and approximate so as to form a mass, that you can expect any symptoms that are discernible by the ear. You will easily see that this must be the case, when you consider that, in the first instance, the tubercles which constitute this disease are exceedingly small and few, leaving a large portion of pulmonary structure perfectly healthy. The parts, in which the symptoms cognisable by the ear are first noticed, are those below the clavicle, and this even before the tubercles have softened; but, when they have become sufficiently large and numerous to occupy some space, you will not find, on striking the part under which such deposit is situated, the hollow sound of health, but a degree of dulness. In proportion to the size of the tubercular deposit, is the dulness of the sound. Then, if you listen with the stethoscope, and make the patient speak, you will find the voice resounds there in an unnatural way, because the solid substance of the tubercles is a much better medium for the conveyance of sound than the loose structure of the healthy lung. The sound, therefore, where the tubercles exist, is louder than elsewhere. You will likewise perceive what is termed *bronchophony*: the same sound that you hear on putting the stethoscope over the large bronchiæ. But it is to be remembered, that the voice naturally sounds louder under the clavicle than elsewhere, on account of the large tubes being there, and consequently you should not depend on this symptom alone; but, to justify a decided inference, that the bronchophony depends upon tubercular deposition, it should be united with the dead sound on percussion. Dr. Elliotson very properly also advises a careful comparison of the sounds perceptible on each side of the chest. When the tubercular mass softens, and a portion is discharged, so that the cavity is emptied, or nearly so, a new symptom presents itself, *viz.*, *pectoriloquy*, or *pectoriloquism*; for, as the bronchial tubes enter this cavity, you hear with the stethoscope the same sound as is heard on putting it over the trachea. If you make the patient cough, you hear a mucous rattle; and, in proportion as more and more of the tubercular matter is spit up, and mere mucus remains in the cavity, the gurgling sound becomes louder, and more distinct. In thin persons, *pectoriloquy* under the clavicles is natural, though no tubercles may exist: it should be heard decidedly in other parts of the chest to be sufficient evidence of the disease. When *pectoriloquy* is established, the dull

GEN. III.

SPEC. V.

Marasmus  
phthisis.stages of mediate  
auscultation:yet often an  
imperfect  
guide; and at  
all times re-  
quires long  
experience.Exemplified  
from Laennec  
himself.

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Hence little  
trusted to by  
Rostan and  
others.

by M. Laennec himself, that some persons have an habitually relaxed state of some of the bronchial vessels, from hooping-cough or chronic catarrh, or a few minute excavations in the organ of the lungs, without any serious deviation from a state of ordinary health; as also that patients occasionally recover from the tubercular species of consumption, and have the interior of the hollows or fistulæ hereby produced not filled up, but lined with a semi-cartilaginous membrane, thus effecting a natural cure, — the phenomenon of pectoriloquism will here be as distinct as in a morbid state of the pulmonary organ, and consequently may often lead the practitioner astray. And, lastly, as the stethoscope is limited, or nearly so, to the ulcerative forms of phthisis, the disease may exist in the catarrhal variety, and still elude its power. For these and other reasons, little dependence is placed on this instrument by M. Rostan, and still less by M. Foderé; nor is it likely to obtain a very extensive use in our own country.\* It has also been em-

sound on percussion ceases. The tubercular solid mass, which gave the dull sound, no longer exists; and the part being now excavated, yields the same hollow sound as in health. It is to be remembered, says Dr. Elliotson, that though you have pectoriloquy, and a large space which ought not to be there, yet the phenomenon does not show the nature of the cavity, and it is only from the general symptoms that you are satisfied it is the cavity of phthisis. A part of the lungs is sometimes separated by gangrene, and a cavity will remain; so that you may here have pectoriloquy; but the nature of the case is denoted by the factor of expectoration, sudden extreme debility, &c. In chronic bronchitis the bronchial tubes may be very much enlarged at one spot; and here, also, there may be pectoriloquy; but the general symptoms of phthisis will be absent. No reliance is to be placed on the ear alone; the symptoms, which are audible, are only to be taken in conjunction with those which are general. Certainly, a very wrong view is taken of auscultation, when it is regarded as superseding the necessity of attending to the whole of the symptoms. As Dr. Elliotson further explains, a person may be labouring under ulceration of the lungs, and yet he may not afford the sign of pectoriloquy. If the cavity be near the surface of the chest, and the walls of the cavity be very thin, and if the bronchial tubes that open into the cavity have mouths so small as to bear no proportion to the cavity itself, you may have a large cavity, and yet no pectoriloquy at all. Here is another instance of the fallacy of observations made by the ear alone, to the exclusion of the other symptoms. The walls of the cavity must be of a certain thickness for pectoriloquy to be produced, and the bronchial tubes, opening into the cavity, must bear a certain proportion to it; but, when the cavity is near the surface of the lung, and only covered by pleura, there will be no pectoriloquy. If, however, you had seen the patient before the cavity became so large as to be out of proportion to the bronchial tubes opening into it, and before the sides of the cavity had become so thin, you would have had pectoriloquy. When the excavation is very large indeed, you will sometimes hear the metallic tinkling, a silvery-ringing sound, when the patient coughs, speaks, or breathes. The metallic tinkling, however, as Laennec observed, is heard also whenever a communication is formed between the air-cells and the cavity of the pleura. In the first stage of phthisis, nothing is to be learned from the ear; and as the case proceeds, the case is generally clear enough without the information to be derived from this source; but, when it is questionable, whether the disease be bronchitis or phthisis, the existence of pectoriloquy in the latter affection, previously to the excavation becoming too large, will prove the true character of the complaint, and serve for the discrimination of one case from the other. See Professor Elliotson's Lectures at the Lond. Univ., as published in Med. Gaz. for 1833, p. 227. — Ed.

\* The editor does not coincide in this remark; but he believes, that, for the elucidation of many ambiguous cases in the practice both of physic and surgery, the stethoscope will always be a valuable instrument. Its use in the examination of tumours, suspected to be of the aneurismal kind, but attended with obscurity,



ployed to ascertain the existence of pregnancy, by catching the sounds of the pulsations of the fetal heart, and of the movement of the blood in the utero-placental arteries.]

Such is the general history of phthisis. The pathology and practice are in a most unsatisfactory and unsettled state: nor can any thing be conceived more contradictory, than the writings upon both these subjects. Boerhaave regarded consumption as a local disease, or conversion of all the blood and chyle into pus by means of an erosive ulcer seated in the lungs: Stahl as a general disease, unaffected by pus or any other acrimony. The latter ascribed consumption to the very abundant use of bark which was then prevailing in Europe; while Morton regarded bark as his sheet-anchor in effecting a cure. Consumption, according to Brillouet and many other writers, is identic with scrofula, and is only to be cured by tonics, alkalies, corrosive sublimate, or other mercurial alterants employed for the cure of scrofulous affections.\* According to Cullen, though it has an apparent connection with scrofula, the analogy affords us no assistance in the treatment, and the remedies for the one are of no avail in the other.

Dr. Rush contemplated it for the most part as an antonic or inflammatory disease, and particularly in its first stage, though it is sometimes accompanied with a hectic, or even a typhous fever. And hence his principal remedies were, salivation, or bleeding, which he sometimes prescribed fifteen times in six weeks: emetics, nitre in large doses, a milk and vegetable diet, walking in cold air even during an hæmoptysis, and afterwards severe exercise. The hardships of a military life, says he, have effected cures in a multitude of cases of confirmed consumption; and a riding post-man has been relieved more than once by the pursuit of his occupation.† This bold practice excited many followers, and was tried with variable success upon a large scale. But a practice of an opposite kind, equally bold, and which soon became equally popular, was proposed at the same time by M. Salvadori, of Trent.‡ Consumption, in the view of this pathologist, is an atonic, instead of an antonic, disorder from the beginning—a disease of direct debility, and not of inflammation; and hence is only to be cured by an active plan of stimulants and roborants from the first. The patient's diet is to consist of copious meals of meat and wine, and his chief regimen to be that of climbing hills, or precipitous steep, in the morning, as quickly as he is able, till he is out of breath and bathed in sweat, and then augmenting the perspiration by placing himself near a large fire. Mr. May, who adopted the same general principle, seems to have postponed the gymnastic part of the process till the symptoms were alleviated, and to have called in the aid of medicines which Salvadori regarded as superfluous. May's medicinal means were emetics, bark, and laudanum, night and morning; and for diet, he prescribed

GEN. III.

SPEC. V.

Marasmus  
phthisis.Pathology and  
practice unsat-  
isfactory and  
unsettled.View of Boer-  
haave: as op-  
posed to that  
of Stahl.Of Stahl, as  
opposed to that  
of Morton.Of Brillouet,  
as opposed to  
Cullen.

Of Rush,

as opposed to  
Salvadori,

and May.

is generally recognised. For ascertaining doubtful fractures, and sometimes the presence of a calculus in the bladder, the stethoscope has also been recommended. See Lisfranc, *Mém. sur les Nouvelles Applications du Stéthoscope*; or Alcock's Translation; and Dr. Ferguson's Obs. in *Dublin Trans.*, vol. i. — Ed.

\* Journ. de Méd., 1777.

† Med. Inquir. and Observ., i. 8vo. Phil. 1789. ii. 1793. v. 1802.

‡ Del Morbo-Tifico, 2 vols. 8vo. Trent, 1787.



GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Of Desault as  
opposed to  
Galen, and  
Gregory.

Of Beddoes.  
as opposed to  
Barton and  
Parr.

These contra-  
dictory views  
capable of ap-  
proximation :  
as the disease  
evinces different  
varieties, and, in  
different habits,  
may require  
very different  
modes of  
treatment.

Phthisis not  
beyond the  
power of na-  
ture.

soup, meat, wine, porter, brandy and water, eggs, oysters with proper condiments. Swinging was interposed twice a day; and horse-exercise was to complete the cure.\*

Many later writers believe consumption to be very generally produced by a habit of drinking vinegar daily to improve the figure: and Desault relates a case, in which this effect was produced in the course of a month.† Galen recommends vinegar as the best refrigerant we can employ: and Dr. Gregory, in 1794, gave the case of a patient, who recovered by using three dozen lemons daily. Dr. Beddoes felt justified in declaring fox-glove a cure for consumption as certain as bark for agues ‡; Dr. Barton has never known but one case cured by it, though others may have been palliated §; and Dr. Parr asserts roundly, that it is more injurious than beneficial. ||

Contradictory, however, as are these statements with each other, they are chiefly so, as being either too highly coloured or too indiscriminate. We have already considered phthisis under three varieties or modifications, chiefly in respect to its being deep-seated, or superficial; the apostematous lying lowermost, the tubercular somewhat higher, and the catarrhal on the surface. But each of these, as it occurs in different constitutions, or under different circumstances, may exhibit very different symptoms, and demand a very different, and perhaps an opposite, mode of treatment. And hence, most of the principles on which the preceding opinions and modes of practice are founded, may derive authority from particular examples of success; and are so far correct, though, perhaps, none of them will apply to the whole. So considerable, indeed, are the shades of distinction from this multiplicity of causes, that every separate case of consumption should be allowed to speak for itself, and must call for much deviation from the widest line of treatment we can ever propose to ourselves under the form of general rules.

[Whether tubercular phthisis be ever really curable, is yet a contested point. It is certain, however, that the progress of the disease may be checked, and that some patients will live thirty years or more, without sinking under its effects. From various cases, which Laennec has reported, this distinguished pathologist concludes, that tubercular phthisis is not beyond the powers of nature, though he admits that art possesses no certain means of accomplishing a cure. We may be well assured, he says, that a disease is irremediable, when we find employed in its treatment almost every known medicament, however different, or even opposite in effect; when we see new remedies proposed every day, and old ones revived, after having lain long in merited oblivion; when, in short, we find no plan constant, but that of giving palliatives, and no means persevered in, but such as are proper for fulfilling indications purely symptomatic.

With respect to what our author denominates *catarrhal phthisis*,

\* Lond. Med. Journ., ix. 1788.

† Sur les Maladies Vénériennes, la Rage, et la Phthisie, 12mo. Bord. 1739.

‡ Essay on the Causes, Early Signs, and Prevention of Pulmonary Consumption, 1799.

§ Collections for a Materia Medica, 8vo. Philadel. 1798.

|| Med. Diet. in verb. Phthisis, vol. ii. p. 410.

it it be unattended with tubercles, the frequency of its cure is as undoubted as its total difference from a case of tuberculated lungs. But, the apostematous phthisis, spoken of in the preceding pages, seems to imply either an abscess in the lungs from some cause not essentially connected with tubercles, or else the effect of that process by which pulmonary tubercles become more or less dissolved, and converted into a fluid exhibiting many of the qualities of pus. Apostematous phthisis, in the first of these meanings, must often admit of cure; but, in the second, the frequency and even the possibility of cure, are matters of dispute. After a careful perusal of the facts recorded by Laennec, in illustration of the mode, in which nature sometimes cures phthisis, or repairs tubercular excavations, and after an impartial consideration of Professor Carswell's observations\*, the editor conceives, that the absolute incurability of apostematous phthisis must not be positively asserted, though the extreme rarity of a cure is as certain as any fact whatsoever in the whole mass of medical knowledge.†

According to Laennec, and with reference to the ascertained progress of tubercles, as detailed in the foregoing pages, the following are the most rational indications:—

1. As soon as we have ascertained the existence of the disease, our aim should be to prevent the formation of the second set of tubercles; as, in this case, says Laennec, if the primary tubercular masses be not extremely large, or numerous, which they very seldom are, a cure will necessarily take place, after they are softened and evacuated.

2. The second indication should be to promote the softening and evacuation, or the absorption, of the existing tubercles. These indications being comprised in the following ones, considered by the author of the present work, though expressed in different language, the editor does not find it necessary to deviate from the arrangement preferred by Dr. Good.]

The general intentions, by which practitioners seem to have been guided in the midst of all the above contrarieties of practice, are the ensuing:—

- I. To take off the inflammatory action.
- II. To correct the specific cause, or phthisical diathesis.
- III. To support under debility.
- IV. To subdue the local irritation, and improve the expectoration.
- V. To excite a change of action.

I. If the patient be of a robust habit, and in the prime and Treatment.

\* See Dr. Carswell's Illustrations of the Elementary Forms of Disease, fasc. i. 4to. 1833.

† The following is Professor Elliotson's opinion on the important question of the curability of tubercular phthisis:—"I am quite sure, on account of the succession of tubercles, that persons rarely recover; and I doubt whether the cavities heal so often as Laennec thought they did." The puckering and subjacent induration, noticed by Laennec, as proofs of cicatrization of the lungs, are not considered by Dr. Elliotson to furnish unequivocal evidence of the fact, because similar appearances are commonly observed in the liver, under circumstances where there could have been no suppuration and ulceration. (See Lect. at Lond. Univ. as published in Med. Gaz. for 1833, p. 230.) Andral has arrived at the same conclusion. — Ed.

GEN. III.  
SPEC. V.  
Marasmus  
phthisis.

Indications  
according to  
Laennec.

GEN. III.

SPEC. V.

Marasmus  
phthisis.First intention:  
to take off in-  
flammatory  
action.When the habit  
is robust, and  
the symptoms  
severe,the actively re-  
ducent plan  
may be expe-  
dient and im-  
perative.

Bleeding.

vigour of life, and if the symptoms indicate considerable inflammation, whether in the lungs or bronchiæ, such as, in the former case, fixed pain and weight in the chest, increased by lying on one side, with a dry but troublesome cough; and in the latter, a general soreness rather than pain in the chest, frequent and violent cough, with a copious excretion of a thin, offensive, and purulent mucus; and, in both cases, with a full and strong pulse, the fever, though remissive, making an approach towards a cauma, constituting the plethoric species of Portal, and the inflammatory of Dr. Rush, our object in both these cases should be to diminish vascular action by every mean in our power. Venesection should be had recourse to with all speed: and though we shall seldom be called upon so closely to follow the steps of Dr. Dover as to repeat the operation fifty times in succession \* before we desist, it may be necessary to follow it up rapidly to the third, fourth, or fifth time. Portal, in the catarrhal variety, bled a man, seventy-eight years old, three times with the happiest effect. †

[With regard to bleeding, Laennec does not consider it as a means of curing, or even preventing, phthisis, but only as calculated to allay the inflammatory affections with which it is sometimes complicated. Laennec, as we have already explained, conceived that inflammation had little share in the production of tubercular phthisis, and he positively asserts, that bleeding can neither prevent the formation of tubercles, nor cure them when formed. ‡ The latter part of the proposition is more generally admitted than the former; and the celebrated Broussais declares, that, in putting a stop to catarrh, a mild peripneumony, and pleurisy, by very active treatment at their onset, the occurrence of phthisis may be rendered very rare, whatever be the constitutional predisposition of the patient. §]

Immediately after the use of the lancet, we should employ small doses of ipecacuan or antimonial powder, so as to maintain a nausea till the pulse is lowered. Where the symptoms approach to peripneumony, the latter is to be preferred; where they lean to an inflammation of the mucous membrane of the bronchiæ, the former, of which three or four grains may be given three or four times a day, and will often prove expectorant, and unload the mucous follicles of the air-cells. The bowels should, in the mean time, be thoroughly opened by neutral salts, or uniting three or four grains of calomel with the nauseating powder: and after this, the fox-glove may be prescribed. Van Helmont first employed this last medicine as a specific for scrofula; but the only specific influence we know it to possess is on the kidneys, and on the action of the heart and arteries. It is for this last effect that we look to it in the

\* Ancient Physician's Legacy to his Country, 8vo. Lond.

† The patient may occasionally have attacks of inflammation, and suffer violent stitches in the side, with aggravation of the cough. Under these circumstances, a few ounces of blood may be taken away, or the chest may be cupped and blistered. You have then, as Dr. Elliotson observes, to treat the case as one of inflammation of the chest, in a constitution of little power. (See his Med. Lect. at Lond. Univ., as published in Med. Gaz. for 1833, p. 235.) If the patients be seized with hemorrhage, it is often necessary to treat them in the same way, and keep them on low diet. — Ed.

‡ On Diseases of the Chest, p. 362. 2d edit. by Forbes.

§ Doct. Med., p. 686.

Nauseating.

Aperients.

Digitalis.



present instance; the only effect, in all probability, that renders it of any advantage in consumption. In catarrhal phthisis, it seems sometimes, however, to improve the character of the exspuition: but this is, perhaps, a collateral result of the diminished action of the arterial system.

When a sufficient inroad has thus been made upon the inflammatory diathesis, we may content ourselves with an administration of the cooling neutrals, of which the nitrate of potash is one of the best. It may be given in almond-emulsion in the proportion of a scruple to half a pint; and, if the cough be still troublesome, may be conveniently united with some light narcotic, as the extract of hyoseyamus or white poppy. The diet and general regimen are points of great importance; but, upon these, we shall have to speak presently.

It is not often, however, that phthisis commences with the inflammatory action we have been contemplating. Its ordinary march is unostentatious and insidious; and it takes possession of the fair and delicate, rather than of the firm and athletic frame, and chiefly in those possessing this figure who can trace the disease in their ancestors.

II. Of the proximate cause of this predisponent diathesis, we know nothing: it is generally supposed to have a near analogy to that of serofula; and when called into action, it commonly shows itself in the form of the tubercular variety: the tubercles themselves, though not occurring in a structure strictly glandular, bearing a considerable resemblance to serofulous indurations. And, on this account, as there are various medicines, and a particular regimen that seem to have a beneficial effect upon a serofulous habit, the same have often been resorted to for the cure of consumption. Thus, sea-water, the alkalies, almost all the metallic salts, and especially those of mercury, have been repeatedly tried, but apparently with very doubtful success. Mr. Spaldin gives the case of a patient who had taken nearly two pounds of potash and soda, intermixed like common salt, with his ordinary food; and, he states, with considerable benefit after fox-glove, sulphuric acid, and bitters, had been successively found to disagree\*; and Dr. Trotter affirms, that among seamen in serofulous consumption, as he calls the tubercular, salt and salt diet have proved of eminent service, but that the most effectual remedy is cinchona with sulphur.† Yet, though serviceable in particular cases of tubercular consumption, this class of medicines is far less efficacious than in strumous affections; and the remark of Dr. Cullen, which he has confined to two or three varieties of them, may be extended to the whole. "In serofula," says he, "the remedies that are seemingly of most power are, sea-water, and certain mineral waters; but these have generally proved hurtful in the case of tubercles of the lungs. I have known," he adds, "several instances of mercury very fully employed in certain diseases in persons who were supposed at the time to have tubercles formed, or forming, in their lungs: but though the mercury proved a cure for those other diseases, it was

GEN. III.

SPEC. V.

Marasimus  
phthisis.

First intention.

Mild dia-  
phoresis prefer-  
able to drastic  
sweating; after-  
wards cooling  
neutrals, and,  
when necessary,  
narcotics.Phthisis rarely  
thus violent in  
its attack.Second curative  
intention.To correct  
the specific  
diathesis.How far the  
specific treat-  
ment for  
serofula appli-  
cable to the  
tubercular  
variety.

Alkalies.

Muriate of  
soda.Cinchona with  
sulphur.

Mercury.

\* American Med. Repository, vol. v. p. 220.

† Medecina Nautica, vol. ii. p. 359.

## GEN. III.

## SPEC. V.

Marasmus  
phthisis.Treatment.  
Second inten-  
tion.Metallic salts  
tried generally,  
but without  
success.

Of silver :

Lead :

Zinc :

Arsenic :

Manganese :

Cobalt :

Copper :

Barytes .

Vegetable  
narcotics.

of no service in preventing phthisis, and, in some cases, seemed to hurry it on." \*

Nor have any other metallic salts been of more use than those of mercury. Dr. Roberts has had the spirit and perseverance to run through the whole range of such of them as can in any way be thought applicable to this complaint; and has also had the candour, after a sufficient scale of trial in St. Bartholomew's (a candour how seldom to be met with!), to confess that none of them were administered with success. The experimental list consisted of silver in its nitrate; lead in its superacetate, combined with opium, for counteracting its deleterious effects; zinc, in its sulphate and oxyde; and the precipitate from the sulphate of potash, combined with myrrh; arsenic in the neutral salt formed by a combination with potash; manganese in its white oxyde, in doses of ten grains every six hours: cobalt in its black oxyde, in doses of from one grain to four; ammoniated copper; and muriate of barytes. And with a like want of success, he tells us, in addition, were employed the vegetable narcotics aconite, hyoscyamus, stramonium, belladonna, as also toxicodendron. † We may hence, I think, nearly conclude with Dr. Cullen, that "the analogy of scrofula gives no assistance in this matter." ‡ And it is probably on this account, that M. Fodéré has treated of tubercular and scrofulous consumption as two distinct forms of the disease. §

Iodine.

The preparations of iodine have a fair claim to attention here, as well as in scrofula, though great caution is necessary in employing them; while it is only where the affection is pretty evidently tubercular that we have any reason to expect success from their use; and even here, only in an incipient state of this variety. I have found a local application of the ointment relieve the cough and pain in the side, in some cases, more effectually than the tartar emetic eruption. And if the erythema hereby produced should prevent a continuance of the application ||, we may substitute the form of pills or of tincture; giving half a grain of the iodine, in either mode of preparation, two or three times a day. [From the remarkable power of iodine in removing bronchocele, and reducing the size of diseased lymphatic glands on the surface of the body, the employment of it for the dispersion of pulmonary tubercles, as Dr. Forbes observes, was at once prompted and justified by the fairest analogy. ¶ But, says he, there exists so material a difference between tuberculous disease of the lungs, and bronchocele, or enlargement of the external glands, notwithstanding their seem-

\* Pract. of Phys., vol. ii. sect. CCCCVII. p. 293.

† Med. Trans., vol. iv. p. 129. Professor Carswell has traced abundance of tubercular matter in scrofulous lymphatic glands: and since swellings of this kind are sometimes cured, he regards the circumstance as a consideration against the inference, that tubercles of the lungs are absolutely incurable. (See his Illustrations of the Elementary Forms of Disease, fasc. i. 4to. Lond. 1833.) The tubercular substance being unorganised, cannot itself be affected or influenced by medicine; and hence no doubt one principal difficulty in the attempt to cure phthisis. — Ed.

‡ Pract. of Phys., vol. ii. sect. CCCCVII.

§ Leçons sur les Epidémies et l'Hygiène Publique, tom. ii. Paris, 1823.

|| For its other troublesome effects, see Vol. v. Cl. vi. Ord. i. Gen. ii. Spec. i. Emphyema. Sarcoma Bronchocele, p. 315.

¶ See Baron's Illustrations of the Inquiry respecting Tuberculous Diseases, p. 220; and Gairdner on the Effects of Iodine, 1824.

ing analogy, as renders the efficacy of iodine in the former disease more than problematical. He considers it, however, as deserving of further trial.

This part of our subject, however, ought not to be closed without briefly adverting to the practice of giving very small doses of tartar emetic, dissolved in a large body of some simple menstruum, and continuing it for an almost indefinite period of time. Dr. Balfour dissolves two grains in six ounces of water, and prescribes an ounce of this mixture, that is, a third part of a grain of the tartarized antimony, to be taken every hour, and a smaller quantity where this is found to nauseate. M. Lenthais, in his *Méthode Préserve*, first directs a grain of tartarized antimony to be dissolved in eight table-spoonfuls of distilled water, and then six or eight pints of water, and sometimes not less than twelve, to be added. The solution, thus weakened, is employed by the patient for common drink in every case and stage of consumption, either alone or with some other drink at meals, or occasionally with wine. [Tartarized antimony was strongly recommended by Dr. Jenner\*, but Dr. Forbes says that he has tried it, as well as setons, blisters, &c., without any benefit.]

III. Although in consumption we can avail ourselves but little of the treatment which applies to scrofula, and know nothing whatever of the nature of its specific cause, we see enough to convince us that consumption, in its general character, is, like scrofula, a disease of debility; and that wherever it exhibits an excess of vascular action, it is merely in consequence of being planted upon a plethoric or entonic temperament.† And hence another principle, conspicuous in most of the remedial plans to which it has given birth, is that of supporting the system while labouring under its influence.

This principle is well founded, but of difficult application; and, like the opposite principle of reduction, has been often carried to an extreme. During the last century, Salvadori in the Tyrol, and, in the present day, Dr. Stewart, of Edinburgh, are justly chargeable with having done this by a very general allowance of nourishing diet in conjunction with pure or diluted wine, bark, steel, and other tonics; exercise on horseback, and affusion with vinegar and cold water. In its ordinary course, the disease itself is not only peculiarly prodigal of animal strength, but extremely protracted in its duration; while the fever, though remissive, rarely subsides altogether, or allows any interval of which we can avail ourselves.

In some instances, however, it does allow such interval, and especially where it has continued for a long period, and has broken down the general vigour of the frame; in which case, Moreton occasionally found the inflammatory form, with which it commenced, converted into a low intermittent, sometimes assuming the quotidian, but more generally the tertian type; beginning with cold fits, and succeeded by intense heat and profuse sweats, which exhausted the patient, though they left him in high spirits during the intermissions. And in such instances, it is possible, that the tonic and stimulant plan of bark, wine, and even high-seasoned

GEN. III.

SPEC. V.

Marasmus  
phthisis.

Treatment.

Second inten-  
tion.Tartarized an-  
timony in  
diluted doses:as prescribed by  
Balfour:

by Lenthais.

Third curative  
intention.To support un-  
der debility.An important  
principle, but  
of difficult  
application.  
By Salvadori  
carried to an  
extreme, and  
since by  
Stewart.In some in-  
stances the re-  
missive inter-  
vals nearly  
apyretic; and  
the hectic con-  
verted into  
an intermittent.  
Direct tonics  
may have been  
here sometimes  
employed with  
success.

\* Letter to Dr. Parry, 1822.

† Excess of vascular action sometimes depends upon phthisis being conjoined with various degrees of inflammation in the chest. — Ed.



## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

Treatment.  
Third inten-  
tion.

Chisholm's ex-  
amples of suc-  
cess from cold  
affusion, and  
hard exercise.

But this must  
not form a  
general prac-  
tice; and must  
often yield to  
another course.

The strength  
may be sup-  
ported by nega-  
tive means.

Bleeding rarely  
allowable in a  
delicate frame.

Emetics less  
objectionable;  
and vomiting  
preferable to  
nauseating.

Emetics to be  
selected with  
judgment.

Use of ipe-  
cacuan for re-  
lieving the  
diarrhœa.

dishes, with cold air, cold bathing, and active exercise, so warmly eulogized by the writers just referred to, as well as by many others, may occasionally prove successful; and particularly where the disease is of the apostematous or catarrhal variety, and there is no constitutional taint to oppose at the same time. And it is here also, if anywhere, that the bustling and violent exercise, so strenuously recommended by Dr. Rush and Dr. Jackson, have a chance of proving beneficial. D. Chisholm tells us that, in particular cases, he found both these plans of decided service.\*

But these are plans which cannot be brought into general practice; and, in supporting the strength of the system, we are ordinarily compelled to pursue a very different course: a doctrine, in a few rare instances, admitted even by Dr. Stewart himself.

The first mean, by which we are to aim at accomplishing this, is of a negative kind; and consists in saving the frame as much as possible from the profuse exhaustion it is daily sustaining, by calming the febrile irritation, and checking the colliquative sweats, which, as already observed, are never of a critical kind.

"I have sometimes succeeded very decidedly," says Dr. Young in a note to the author, while the first edition was printing, "in checking the sweats by Dover's powder; but I do not know that the progress of the disease has been much retarded by this palliation."

Bleeding, however plausible, and even advantageous when the pulse is full and strong, and the pain in the side acute, can rarely be allowed when the frame is delicate and irritable, and the pulse small and weak. Where the local distress is considerable, it may be had recourse to as a palliative, but never carried beyond a few ounces, nor repeated without great hesitation.

To emetics there is less objection, but vomiting is here to be preferred to nauseating. The latter, though it lowers the pulse, produces considerable fatigue and distress. The former emulges the bronchial glands, and diminishes the local irritation by transferring it through the means of a general glow and moisture over the system at large. The dose may be repeated three or four times a week, and should have its power limited, as nearly as may be, to a single inversion of the stomach.

In the selection of emetics, some judgment is required; for those should be carefully avoided, which, like the antimonial preparations, produce loose evacuations, and excite considerable sweating. The ipecacuan is, perhaps, one of the simplest and the best. Dr. Simmons, however, preferred the sulphate of copper, giving first of all half a pint of water to the patient, and then the blue vitriol from two grains to twenty, according to his age and strength, dissolved in an additional cup-full of water. In general, he found, that the moment the emetic reached the stomach it was thrown up again, upon which the patient was ordered to swallow another half pint of water: which was sufficient to take off the nausea.†

[Besides the use of ipecacuan, as one of the best emetics in phthisis, it is an important medicine for palliating the diarrhœa, under which many patients sink. This complaint, it is true, is often quite incurable, being connected with morbid changes in the

\* Climate and Diseases of Tropical Countries, &c. 8vo. p. 112. Lond. 1822.

† Practical Observations on the Treatment of Consumption, &c.

bowels, already described in the preceding pages; but whatever benefit it does admit of will be derived from small doses of ipecacuan. Thus, Dr. Bright says, when the disorder of the mucous membrane of the bowels is a prominent feature in phthisis, the purging may often be diminished, and the stools rendered natural in appearance, by giving the patient two grains of ipecacuan three times a day.\* The editor can add his testimony in favour of the practice, especially when the ipecacuan is made into a pill with four or five grains of the *confectio opii*.]

The reason that prohibits nauseating, prohibits also the use of fox-glove: for though the pulse may be diminished, nothing more is obtained, and even this is obtained at too great an expense of sensorial power in the degree of debility we are now contemplating: and the remark will apply to most of the narcotics, whether of the umbellate or solanaceous order. The neutral salts answer better, and especially nitre; and there is no modification of the disease in which this may not be given, and will not prove an excellent refrigerant as well as sedative. The general error, however, has been in administering it too freely, as in doses of fifteen grains or a scruple; in which case, it becomes a direct irritant, and does much more harm than good. Seven or eight grains at a time, as already observed, is a far better proportion, and even in this quantity it will answer best if considerably diluted. It is often united with narcotics; but these are never found of use, unless they palliate the cough or local distress; for otherwise they increase the heat and quicken the pulse.

Most of the acids may also be employed for the same purpose, and with equally good effect. They may, indeed, be regarded in the joint character of sedatives, refrigerants, and astringent tonics: and have hence every claim to attention. The mineral have been most commonly in use; but, from their erosive quality, they cannot be thrown in sufficient abundance into the circulating fluids: and, on this account, the vegetable are to be preferred; and, of the vegetable, the fermented acids, which, though somewhat less grateful than the native, seem to be more effectual as tonics. The acetous acid was employed freely by Galen, diluted with water, who regarded it as the best refrigerant we can select. It is continued to the present day among the Moorish physicians at Tunis, and, according to the late M. Orban, with decided success. He observed its effects, during three months, upon one patient who appeared to be labouring under a confirmed phthisis from a neglected catarrh. The quantity of vinegar, drunk in the course of every twenty-four hours, was seven fluid-ounces intermixed with seven times as much rain-water, and sweetened with two ounces of refined sugar. This apozem was accompanied with astringent and tonic pills, composed chiefly of alum and sulphate of iron, of each of which two grains and a half were taken daily. The diet allowed was very slender, and consisted of nothing more than vermicelli or millet, boiled in water, and seasoned with a little oil and salt. Of this, only two meals in the four-and twenty hours were allowed for several weeks. And, on the patient's becoming very costive under its use, the Moorish physician paid no attention to the symptom, but told M. Orban, that a constipated state of the bowels was the

GEN. III.

SPEC. V.

Marasmus  
phthisis.Treatment.  
Third inten-  
tion.Fox-glove ob-  
jectionable in  
delicate and  
irritable habits;as are most of  
the narcotic  
umbellate and  
solanaceæ.Neutral salts  
useful:but should be  
given consider-  
ably diluted.Acids often  
highly service-  
able.Vegetable pre-  
ferable to  
mineral,especially the  
fermented.Acetous em-  
ployed by  
Galen, still  
employed by  
the Moorish  
physicians.Its success as  
observed by  
Orban.Tried with  
success by  
Orban himself.

\* See Bright's Reports of Medical Cases, p. 152. 4to. Lond. 1827.

## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

Treatment.

Third inten-  
tion.In our own  
country by  
Roberts.Summary of its  
beneficial  
effects.Proper astrin-  
gents rarely  
serviceable.Exemplified in  
oak-bark :agarics :  
lead.Tonics com-  
bining an as-  
tringent and a  
bitter principle,

best symptom that could occur, and that the more strikingly this prevailed, the more certain he was of a cure. M. Orban left his patient in a state of convalescence bordering on perfect health; and, on his return to France, pursued the same plan, with the exception of the iron, which he omitted as too stimulant, and found it, in many cases, eminently successful, though not in all.\* It has since been tried in our own country, and has often proved equally advantageous. Dr. Roberts has paid particular attention to its effects; and, upon a pretty extensive scale, has been satisfied with them. One of his cases was of a very unpromising aspect, and consisted of a young gentleman, seventeen years of age, whose elder brother had died of phthisis. The cough, which in the morning was very considerable, was accompanied with expectoration sometimes streaked with blood; a confirmed hectic preyed upon him, and the night-sweat was so profuse that his hair was drenched with it. "My patient," says Dr. Roberts, "was *at once* relieved by the use of the acid, and in a short time so lost his complaints, that, by advice, he discontinued the remedy."† The acetic and acetous acid seem to have been employed indiscriminately; over which the citric, which was also tried, did not seem to have any advantage. The acetous was usually given in half-ounce doses, with an ounce of infusion of cascarilla, and a little mucilaginous powder or syrup, the dose being repeated three or four times a day.

From these facts, as well as from a host of others of the same kind that might be adduced, the acetous acid appears to be a powerful sedative. It diminishes action generally, checks night-sweats, restrains hæmoptysis, retards the pulse, and produces costiveness. In hæmoptysis, I have carried the use of acetous acid much farther than was prescribed by Dr. Roberts, and with manifest and unmixed advantage.

The proper astringents have also not unfrequently been employed in phthisis for the same negative purpose of producing strength by checking the exhausting discharges of sweat, pus or mucus, blood, and often diarrhœa; but they have rarely proved successful. Some degree of benefit seems occasionally to have been derived from the use of oak-bark, several of the agarics‡ given in the form of lozenges, and the acetate of lead§; but they have far more generally been employed without success, or with more mischief than advantage.

The most direct means of supporting the system would be by those tonics that unite an astringent with a bitter principle; but

\* Med. Trans., vol. v. art. xviii. This treatment with vinegar falls under the head of what is called the empirical practice. The account is altogether unsatisfactory: the case is called a confirmed phthisis; but was it of the tubercular kind? — Ed.

† Med. Trans. ut supra.

‡ De Haen, Rat. Med., tom. ii. 567. Dufresnoy, in Corvisart, Journ. Med., cent. vii. 531. 1804.

§ Ewell in Sédilot's Journ. Gén. Méd. xliv. Hildebrand, id. xxxvi. Frequently the largest doses of opium, such as will produce great stupor, and astringents in doses that even overload the stomach, will not succeed in checking the diarrhœa. Frequently there is ulceration of the intestines, and then the sulphate of copper is recommended by Dr. Elliotson. It has a tendency to produce sickness; but this may be subdued by hydrocyanic acid. In the event of this not answering, we may try ipecacuanha in small doses, joined with opium, as already mentioned. — Ed.



we have already observed, that the system is usually, and particularly in the beginning and at the height of the disease, in too high a degree of irritation for a convenient use of any medicines of this kind: though where the complaint has lasted for many months, and appears to be rather of the tubercular or catarrhal, than of the apostematous variety, these may sometimes be employed with great success. The *Angustura* bark generally agrees better than the cinchona; and to this myrrh and iron may at such times be added in increasing doses, and particularly as prepared in the *mistura ferri composita* of the London College. In the tubercular variety, the cinchona seldom agrees in any stage: Dr. Cullen conceives never; and tells us that, even where the disease has assumed something of an intermittent character, quotidian or tertian,—and he has, on this account, been tempted to try it in free doses,—he has in no instances succeeded so as to establish a complete cure. “For in spite,” says he, “of large exhibitions of the bark, the paroxysms, in less than a fortnight or three weeks after they had been stopped, always returned, and with greater violence, and proved fatal.” In the latter stages of the apostematous variety, and especially where the vomicae are small and in perpetual succession, he thinks, however, it may be of service, in restoring a healthy action, and promoting a secretion of genuine pus.

In this last case, and here perhaps only, we may venture with success on the use of the cold bath. In a more irritable state or stage of the complaint, the tepid bath may occasionally prove serviceable; and, where it does so, should be repeated three or four times a week, or even oftener. Of the effect of the *baños de tierra* of the once-celebrated Solano de Luque, I cannot speak from personal knowledge. It consists in burying the patient up to the chin in fresh mould. It would be most obvious to suppose, that this was designed to act as a tonic, and check the undue tendency to perspiration by a protracted chill, but that Van Swieten tells us the smell of fresh earth is serviceable, and approves of it on this account. It has since been recommended by Dr. Simmons and M. Pouteau.

Before, however, the hectic, or the general irritability of the system has so far subsided as to render tonics adviseable, our chief dependence for giving support to the system must be upon diet and regimen.

The diet should be of the lightest kinds, and in very small proportion, or with long intervals of rest; for some degree of exacerbation, in the stage of the disease we are now contemplating, is always produced by the process of digestion. Under *limosis capers* we have already seen how very small a portion of food is necessary for the support of life, when neither mental nor muscular exercise are made use of; and though hectic fever itself is a source of very great exhaustion, this exhaustion will be less in proportion as we produce less excitement, whether from eating or any other cause. And hence the most cautious physicians, from the time of the Greeks to our own day, have concurred in recommending food in small quantity, as well as of the lightest materials. It is not merely the stomach and its collatitious organs that are hereby put at rest, but the circulating system, the assimilating powers, the brain, and the intestines.

GEN. 111.

SPEC. V.

Marasmus  
phthisis.Treatment.  
Third inten-  
tion.more useful in  
a late stage of  
the disease  
than at the  
beginning.Angustura  
bark often  
agrees, and  
especially in  
the tubercular  
variety:the cinchona  
seldom or  
never.

Cold bath.

Baños de  
tierra, or earth-  
bath.Diet and  
regimen.Food light and  
with long in-  
tervals.

## GEN. III.

## SPEC. V.

Marasmus  
phthisis.Treatment.  
Third inten-  
tion.Food princi-  
pally milk and  
the farina of  
plants.What milk  
most nutritious  
and least  
heating.Analyses of  
Stipriaan.Peculiar pro-  
perties of milk  
communicable  
by the food  
fed upon.Artificial ass's  
milk.Vegetable  
mucilages.

Liverwort.

The food itself should consist principally of milk and the farinaceous parts of plants, if it be not limited entirely to these: and upon a diet of this kind, in conjunction with temperate air and exercise, the Greek physicians placed their only hopes of a cure. Whether it be necessary to pay that strict attention to the different kinds of milk, which we find inculcated by many writers of established reputation, I cannot fully determine. Galen recommends woman's milk, as lightest of all, then ass's, next goat's or ewe's, and lastly cow's\*; and Van Swieten adopts the recommendation of Galen.† Mare's milk has since been proposed as preferable to all these: but the analyses, published by different chemists, vary so much from each other, that it is difficult to come to a conclusion. If the experiments of Stipriaan may be depended upon, mare's milk contains most sugar, and least cream, butter, or caseous matter; and woman's milk most sugar, and least butter and caseous matter, next to mare's, with most cream, next to sheep's.‡ Whence mare's milk should be the lightest of the whole, but less nutritive than woman's. According to Parmentier, however, ass's milk contains less proportion of caseous matter than any of the rest.

Peculiar properties may sometimes be given to milk by the food fed upon; and hence Galen endeavoured to render it more astringent, by placing the animal that was to furnish it in pasturage enriched for the purpose with agrostis, lotus, polygonum, and melyssophyllum. And as the patient became convalescent, and could bear a richer nutriment, he was allowed to sail down the Tiber and use the cow's milk of Stabiae, which was peculiarly celebrated for its excellence.

When ass's milk cannot conveniently be obtained, its place may be supplied with what has been called artificial ass's milk; which is a mixture of cow's milk and animal mucilage, diluted in a farinaceous apozem, rendered slightly sweetish and aromatic by eryngo. The ordinary form consists in boiling eighteen contused snails with an ounce of hartshorn shavings, of eryngo-root, and pearl-barley, in six pints of water, to half its quantity, and then adding an ounce and a half of syrup of Tolu. Four ounces of this are usually taken morning and evening, with an equal quantity of fresh milk from the cow.§

The chief foods which have been allowed in the general treatment of consumption in its earlier and middle stages, in conjunction with milk and the farinacea, are the vegetable and animal mucilages, but particularly the former. And of these, that obtained from the Iceland liverwort has been held, and deservedly so, in the highest degree of estimation; for, to an aliment of sufficient nourishment, it adds a tonic power by its bitterness; yet a power that, so far from increasing vascular action, seems rather to quiet it; as though the bitter principle were itself in possession of something of the sedative quality of the hop, Ignatius's bean, or some other plant that decisively unites the two.

In supporting or recruiting the strength, a due attention to air

\* Opp., tom. vi. 130, 131. edit. Basil. 1542.

† Comment., tom. iv. sect. 1211, edit. Lugd. Bat. 1764.

‡ See Crell's *Chemische Annales*, sect. viii. p. 138. 1794.

§ Med. Trans., vol. ii. p. 341.

and exercise is also of high importance. The advantages offered by the first are those of a mild, dry, and equable atmosphere; and, probably, these are the whole. If the patient's own country give him these, he need not wander from home. If it do not, he must create an artificial atmosphere in his own chamber, or set of chambers, by keeping the thermometer at from 60° to 65° of Fahrenheit, and confining himself to this temperature; or he must seek the atmosphere he stands in need of in a foreign climate. The disadvantage of the former is, that, though he may support the requisite temperature, he cannot conveniently obtain a sufficient change of air, nor so well avail himself of the various exercises that might be useful to him, as if he were at liberty to go abroad.

Hence a change of abode has been recommended in all ages to those whose native soil is subject to considerable and sudden atmospheric variations, though pathologists have by no means agreed upon a meteorological standard. For the patient's residence in our own country, the south-western boundary of the Cornish coast, and particularly Penzance, seems to offer the best asylum; and where a foreign climate is recommended, it should lie between thirty or forty degrees of latitude: if lower than this, the disease, and especially where ulceration has taken place, seems to be exacerbated instead of diminished, and, consequently, its fatal issue to be quickened\*; notwithstanding that to the natives consumption is little known within the tropics.

In Great Britain, the annual mortality from this disease, in 1811, when the population was calculated at 23,353,000, seems to have amounted to 55,000, being a proportion of 1 in 224. In Geneva, from a very exact register, M. Prevost Moulton estimates it at 1 in 521.†

Generally speaking, however, a change of climate or of local situation has been determined upon too late; and hence has not been attended with all the benefit that might otherwise have been reasonably hoped for. On which account, many pathologists have considered it as of little importance, if not more injurious than staying at home, though the most celebrated spots should be selected.

Thus Dr. Carmichael Smyth asserts, that Madeira is unfavourable to the consumptive when the lungs are materially injured, notwithstanding the mildness and equability of its climate.‡ Nice and Naples are said to be equally unfriendly from the neighbourhood of mountains; and Dr. Southey's enquiry has led him to conclude that, in Malta, Sicily, and other islands in the Mediterranean, phthisis, though a rare disease among the natives, does not appear to be retarded in those who visit them for a cure.§ M. Portal dissuades from all such trials by affirming, that there is no dependence to be placed upon them, since he has seen the dis-

GEN. III.  
SPEC. V.

Marasmus  
phthisis.

Treatment.  
Third inten-  
tion.

Mild, dry, and  
equable atmo-  
sphere.

Produced  
artificially.

Obtained by a  
change of  
residence.

Latitudes best  
adapted.

Often tried in  
vain from being  
tried too late.

Hence almost  
every plan dis-  
approved of  
by many pa-  
thologists.

\* Sir G. Blane, *Observations on the Diseases of Seamen*, 8vo. 1785.

† Chisholm, on *Tropical Climates*, p. 234.

‡ Account of the Effects of Swinging in Pulmonary Consumption, &c. 8vo. 1787. In Madeira the thermometer commonly ranges from 60° to 75°; and, in the greatest extremes, seldom exceeds these limits by more than 5°. See *Journ. of Morbid Anatomy, Ophthalmic Medicine, &c.*, vol. i. p. 103. — Ed.

§ Obs. on Pulmonary Consumption, 8vo. 1814. Phthisis was common enough amongst the inhabitants of Malta and Minorca when the editor formerly visited those islands as an army surgeon. — Ed.



## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

Treatment.

Third inten-  
tion.

Great judg-  
ment necessary  
in adjusting the  
proper situ-  
ation to the  
state and stage  
of the disease,  
and the pa-  
tient's consti-  
tution.

Residence not  
advisable where  
high cliffs or  
mountains.

Topography of  
Hastings.

ease accelerated in Englishmen, or those of other northern nations, by a visit in quest of milder air to the south of France; whilst, in the natives of Languedoc or Provence, it has been restrained by a removal to Paris.\* Nor are the observations of M. Fodéré much more encouraging to a trial of any part of France: as he expressly tells us that, in the provinces on the borders of the Mediterranean, phthisis commits the most horrible ravages; while, out of 62,447 deaths which took place at Paris in the years 1816, 1817, and 1818, thirteen thousand, eight hundred and eighteen fell victims to diseases of the chest.†

The whole of this, however, only shows us, that very great care is necessary in ascertaining the state and stage of the disease, the patient's constitution, and the local features of the situation that may be proposed for his residence: and we have already shown, how it is possible for a mild and relaxing climate to prove remedial to strangers, while it may even become a predisponent cause of phthisis to natives. Where, in the commencement of the disease, there is great irritability, or an inflammatory diathesis; or, in its advance, the strength of the constitution is greatly reduced; and especially where an obstinate diarrhœa has supervened, the fatigues of journeying and of a sea-voyage, and the necessary relinquishment of many of those minuter, but still important, conveniences, to which the patient has been accustomed at home, will more than counterbalance all the advantages he might derive from the possession of a milder and more equable atmosphere.

The topography of the situation about to be chosen is of equal importance; for if it be strongly marked by lofty cliffs or mountains‡, the air will seldom circulate freely, but rush in currents in some parts, and be obstructed and become stagnant in others. Such is the state of Hastings on the Sussex coast of our own country, which would otherwise form an excellent asylum for those who are subject to pulmonary affections, and cannot remove far from their native abodes. The shore is skirted by two enormous cliffs of sandstone that rise between two and three hundred feet in perpendicular height. The old town is built in a deep ravine opening towards the north-east, that lies between them, and the new town immediately under the cliffs, fronting south and west; and hence, while the air is rushing in a perpetual current through the former, it becomes stagnant, heated, and suffocative in the latter. § On this account, it has been uniformly found,

\* Obs. sur la Nature et le Traitement de la Phthisie Pulmonaire, ii. p. 358.

† Leçons sur les Epidémies et l'Hygiène Publique, tom. ii. 1813.

‡ Laennec observes that, though phthisis is unfrequent in mountainous countries, it runs a very rapid course when it does occur in them. On Diseases of the Chest, p. 368. 2d edit. by Forbes.

§ For a more inviting account of Hastings, as a place of resort for invalids, see Harwood's Curative Influence of the Southern Coast; or the Journal of Morbid Anatomy, &c. by Dr. Farre, vol. i. p. 121. Laennec considered maritime situations as exhibiting a less prevalency of consumption; but Dr. Forbes, who has resided long on the southern coast of England, deems the opinion unestablished by proof. During a residence of five years at Penzance, Cornwall, a place much frequented by consumptive patients on account of the mildness and equability of its temperature, Dr. Forbes had extensive opportunities of observing the effect of change of climate on phthisis; and he says, that, in the greater number of cases, the change was not beneficial. Transl. of Laennec, 2d edit. pp. 324 and 367.

that small islands, without any great boldness of feature, enjoy the most equable temperature, and, when within the range already pointed out, form the most favourable situations for consumptive cases. Madeira, in some of its positions, is one of the best foreign stations in the winter season; but from its mountainous face, and the snow, sleet, and cold winds to which it is occasionally liable, catarrhal affections, and even genuine consumption itself, are, according to Dr. Gourlay, not uncommon to the natives; and in removing to it, therefore, it will be necessary to select a spot of sufficient elevation, and equally sheltered from the meteorological evils of currents, tempests, and suffocative heat. And, however fortunate a patient may be in procuring such a residence at Madeira, he will, in all probability, succeed still better, and obtain a greater choice of desirable situations, at Nice, Pisa, or even Hières; and might be more comfortable at Villa Franca than even at any of these, if the town were now of sufficient extent and population to offer him the conveniences he will always want, and especially that of a roomy and excellent lodging-house, which, in the present decayed state of this town, is not a little difficult to be obtained. The depth of the bay, and the very abrupt elevation of the hills that rise in a most beautiful and romantic amphitheatre behind it, enable the patient to make a considerable range without exposure to sudden currents. The east is its only unsheltered quarter, and, from the evils attendant on occasional chills, he must sedulously avoid this.

But we have already shown, that a high degree of heat habitually applied to the body, as in intertropical regions, as a source of debility and irritation, may itself call forth a latent consumptive predisposition into action, and become a source of phthisis, as well as a temperature of unfriendly cold. The variety in this case, as we have already observed, is almost always the tubercular, and often combined with a strumous diathesis, if it do not originate from it. The change must here, therefore, be to a cooler instead of to a warmer temperature; to an atmosphere of a more refreshing and invigorating power; to a climate still mild, but less exciting, equable in its thermometer, and tonic in its general influence.\*

After all, the most equable of temperatures is that of the sea itself: and hence many patients, who feel inconvenience from a residence on the sea-side, are almost instantly relieved by sailing a few miles' distance from it. This has often been resolved into the exercise of sailing, or the sea-sickness which in many instances

GEN. III.

SPEC. V.

Marasmus  
phthisis.  
Treatment.  
Third inten-  
tion.

Madeira the  
best foreign  
winter station.

Nice, Pisa,  
Hières, Villa  
Franca.

Where the dis-  
ease occurs in  
hot climates a  
cooler temper-  
ature to be  
sought for.

Temperature  
of sea-air itself  
the most  
equable:  
and hence  
often found  
peculiarly bene-  
ficial without  
sea-sickness.

\* The following remarks by Dr. Clark deserve attention:—"A change of climate having been decided on, the particular situation to be selected becomes a question. Professor Laennec's decided preference of a maritime residence is not, perhaps, founded on very extensive experience. Certain it is, however, that as well in this country as on the Continent, the places usually resorted to by consumptive invalids are on the sea-coast, or at no great distance from it. In almost every case, when the removal to a milder climate can be effected by sea, this means is much preferable to a journey by land. In some cases, the good effects produced by a voyage are very remarkable." (See Laennec, by Forbes, 2d edit. p. 368.) No doubt, as Dr. Forbes has explained, change of climate often fails, because tried too late; and some deception prevails respecting such cases as are beneficial, and which are frequently only specimens of chronic catarrh, or chronic bronchitis. — Ed.

## GEN. III.

## SPEC. V.

Marasmus  
phthisis.Treatment.  
Third inten-  
tion.Sea-sickness  
often service-  
able.Advantages of  
sailing or other  
kinds of motion  
without exer-  
tion forming  
the æora of the  
Greeks.Swinging ;  
carriage exer-  
cise ;  
horse-riding.Gymnastic  
medicine often  
carried to an  
extreme.  
As by Syden-  
ham :Hoffman ;  
Baglivi :How limited  
by Desault.Fourth curative  
intention.  
To improve the  
secretion from  
the lungs.Fumigations of  
aromatic herbs.

is hereby excited. It is, nevertheless, a distinct advantage from either, and resolvable into the explanation just stated.

Sea-sickness, however, is of unquestionable service in many cases ; and particularly in those, in which a protracted nausea by other means has already been recommended. The exercise of sailing is useful on another and a very different account. All motion without exertion, or with no more exertion than gives a pleasurable feeling to the system, which the Greeks expressed by the term *æora*, instead of exhausting, tranquillises and proves sedative. It retards the pulse, calms the irregularities of the heart, produces sleep and even costiveness. Hence sailing on the Tiber was a common prescription among the Roman physicians ; and many consumptive patients have found great benefit from long voyages, in which they have suffered no sea-sickness, and have been exposed to many varieties of atmospherical temperature. Hence, too, the well-known advantage of exercise in a swing, or in a carriage, on horseback, or even on foot, as soon as these can be engaged in with comfort ; the organs of respiration, like those of every other kind, deriving strength, instead of weakness, from a temperate use of them.

Gymnastic medicine, however, seems by many pathologists to have been carried to an extreme ; and especially by Sydenham, who employed horse-exercise in all stages of the disease, and roundly affirms, that neither mercury in syphilis, nor bark in intermittents, is more effectual than riding in consumptions.\* Nor is carriage-exercise, says he, by any means to be despised, though not equal to that of the saddle. Hoffman and Baglivi adopted the same opinion, and laid it down in terms nearly as unqualified. Where phthisis is a secondary disease, and dependent upon some obstruction of the digestive viscera, exercise of this kind may, in many instances, be employed as in important co-operation with other means, even from the beginning ; and to such cases of consumption Desault judiciously limits it. In the present day, it has been revived by Dr. Stewart under a variety of ingenious modifications, and appears in many cases to have afforded relief : but the constitutions of mankind must strangely have altered since the days of Sydenham, if the severity of horse-exercise could at that period have been employed as a specific remedy in consumptions of every kind. Stoll did not find it so in the middle of the last century ; for he tells us, that, if a consumptive patient mount his horse, he will ride to the banks of the Styx as surely as if he were in a pleurisy†. And Stoerck died consumptive, though in the habit of riding, killed by an hæmoptysis apparently produced by this exercise.‡

IV. Another part of the curative process in the disease before us has consisted in endeavouring to subdue the local irritation, and improve the secretion from the lungs. This has been chiefly attempted by fumigations, medicated airs, expectorants, and sedatives.

Bennet was strongly attached to the first of these, and thought they proved peculiarly detergent, and enabled the patient to throw

\* Opp. p. 629.

† Rat. Med. i.

‡ Quarin, pp. 162, 163.



up a more laudable discharge with increased facility. He sometimes employed aromatic herbs immersed in hot water, over which the patient held his head surrounded with cloths to confine the vapour, which was thus inhaled with every inspiration. But he seems to have placed more dependence on an inhalation of the fumes of various terebinthinate resins, as frankincense, styrax, and turpentine itself, mixed into a powder or troche with a few other ingredients, and burnt on coals: to which he sometimes added a considerable proportion of orpiment. And such was the success ascribed to this practice, that Willis, not many years after, resolved the greater exemption of certain parts of England and Holland from coughs and consumptions, to the turf and peat fires which the inhabitants were in the habit of using, and the arsenical principle which was intermixed with the material. In our own day, terebinthinate fumigations have been very extensively tried, in consequence of the warm recommendation of Sir Alexander Crichton, who thought he had perceived great and decisive advantage from the aroma of pitch and tar diffused through rope manufactories, ships, and other places where these articles are in perpetual use.\* I have tried this repeatedly by heating a tin vessel of tar over an oil or spirit-lamp, and thus impregnating the atmosphere of the chamber with the powerful vapour that arises. In doing this, however, we must be careful not to burn the tar; for in such case, the room will be filled with an empyrenmatic smoke that will greatly augment the patient's cough instead of diminishing it: and it will be also advisable, as recommended by Dr. Paris†, to add about half an ounce of subcarbonate of potash to every pound of tar, for the purpose of neutralising its pyroligneous acid, the fume of which will otherwise ascend and prove irritating.

In those states of the disease in which terebinthines, as myrrh, benzoin, or copaiba, may be taken internally with a prospect of success, this kind of fumigation will sometimes prove useful also, and it is hence far better adapted to the tubercular and catarrhal than to the apostematous variety. In a chronic state of the first two, I have sometimes thought it serviceable, but I have more frequently used it without any avail. The experience of Dr. James Forbes, who has tried this remedy upon an extensive scale, very closely coincides with these remarks. Of nineteen cases of phthisis, of which he has given us an account, it neither cured nor improved any; on eight it had no effect; and mischievously suppressed the secretion, injured the breathing, and increased the disease in eleven. In cases of chronic catarrh, where the secretion constitutes the disease, and tonics and astringents are useful, it often succeeded. Of thirty-two cases narrated, it had no mischievous effect on any; no effect whatever on eighteen; improved six, and cured eight.‡

GEN. III.  
SPEC. V.

Marasmus  
phthisis.  
Treatment.  
Fourth inten-  
tion.

Of terebin-  
thinate resins,  
and mineral  
exhalations.

Fumigation  
from tar.

Internal use of  
myrrh, benzoin  
and copaiba.

Tried by Dr.  
James Forbes.

\* Practical Observations on the Treatment and Cure of several Varieties of Pulmonary Consumption; and on the Effects of the Vapour of Boiling Tar in that Disease. Lond. 8vo. 1823.

† Pharmacologia, vol. ii. p. 339. edit. 1822.

‡ Remarks on Tar-Vapour as a Remedy in Diseases of the Lungs. Illustrated with Cases, by James Forbes, M.D. 8vo. 1822.

## GEN. III.

## SPEC. V.

Marasmus  
phthisis.

Treatment.

Fourth inten-  
tion.Pneumatic  
medicine.

Oxygen gas.

Hydrogen gas.

Pneumatic medicine, which, about thirty years ago, was in the highest popularity, does not appear, when candidly examined, to have been more successful. Oxygen gas has, in almost every instance, proved so stimulant, and so much increased the signs of inflammatory action, that, though it has seemed occasionally to afford a momentary relief in a few cases, it has rarely been persevered in more than a fortnight, by which time it has often suppressed the usual expectoration, and produced a hæmoptysis.\*

There was much more reason and ingenuity in recommending an inhalation of hydrogen intermixed with common air, than of oxygen, since the effect of this gas in destroying the irritability of the living fibre is known to every one; and it was hence a plausible conjecture, that, by being applied immediately to the seat of the disease, it might sufficiently subdue the inflammatory impetus, change the action of the ulcerated surface, improve the secretion, and annihilate the hectic. The experiment has been tried at home and abroad upon a pretty extensive scale, by employing different proportions of hydrogen, so that the patient has twice a day breathed from a pint to a quart of gas at a time, diluted with from twelve to six times its measure of common air: and, making every allowance for an exaggeration of statement in those who have most warmly engaged in the practice, it seems difficult not to concede, that it has proved serviceable in various cases.

On what prin-  
ciple useful.

A combination of hydrogen with common air seems, indeed, to be beneficial in various other modes of application; but whether by lowering the ordinary stimulus of common air, or by directly diminishing and exhausting the nervous influence communicated to the lungs, it is not easy to determine. In either way, however, it has an equal tendency to indispose them to inflammatory action. Thus Clapier relates a case of confirmed consumption cured by an habitual residence in a coal-mine†, and expressly states that the matter expectorated soon began to assume a more healthy appearance, and was excreted more freely. It is, in like manner, a common remark that the miners of Cornwall are more generally exempt from phthisis than most other persons‡, and that butchers, who are perpetually engaged in slaughter-houses, and surrounded by a vapour impregnated with hydrogen, possess an equal emancipation. It is probably to this cause, if to any, we are to ascribe the benefit which Bergius found consumptive patients derive from a residence in cow-houses§, and which was, not long since, a fashionable mode of practice in our own country. ||

Gas of coal-  
mines.

Exhalation of  
slaughter-  
houses:

of cow-houses.

\* Fourcroy, Annales de Chim., iv. p. 83. 1790.

† Journ. Méd., xviii. 59.

‡ Southey, Observations on Pulmonary Consumption, 8vo. 1814.

§ Neue Schwed. Abhandl. 1782, part iii. p. 298.

|| Of late years the inhalation of iodine and chlorine has been extensively tried. When iodine is employed, it is only in a minute quantity, and mixed with hydriodate of potassa. Dr. Elliotson informs us, that he has seen more mitigation from the chlorine than the iodine; but he has never seen a case cured by either of them. He has known a single drop of tincture of iodine, put into a pint of fluid, produce great irritation; but chlorine is borne much better: the mitigation afforded by it, however, is but temporary. The following is the mode of using it recommended by Dr. Elliotson:—Into three quarters of a pint of water, drop four or five minims of a saturated solution of chlorine; but he considers it best to begin with one or two minims, and to increase the quantity gradually, in

Expectorants and demulcents have, also, very generally been employed for the same purpose—that of subduing the disease by exciting a healing action in the tubercles or ulcerations, indicated by improvement in the expuition.

Of the general nature and mode of action of these classes of medicines we have already spoken at large in discussing the treatment of cough and asthma: and our remarks, therefore, upon the present occasion, will be but few.

Where the irritation is considerable and accompanied with much increase of vascular action, as in the commencement of the apostematous and catarrhal varieties, the best demulcents, and, indeed, the only medicines of this kind we can employ as palliatives, are the vegetable mucilages, as of tragacanth, quince seeds, or gum Arabic. Where it is necessary to diminish the general action, these may be united with small doses of ipecacuan, or of squills, which have the double power of exciting nausea, and unloading the mucous follicles of the bronchiæ as expectorants. And, where the cough is very troublesome and the pain acute, they should be united with narcotics, as opium or hyoseyanus.

In a more advanced stage of the disease, and through the entire course of the tubercular variety, except where hæmoptysis is present, the expectorants, more properly so called, have often been employed with advantage. One of the oldest of these is sulphur, and, perhaps, one of the best: from its not readily dissolving in the first passages, it is carried to the rectum, and skin sometimes, with little alteration, and hence gently stimulates both extremities, loosens the bowels, and excites a pleasing diaphnœ on the surface. It is in this way it appears to be serviceable in an inflammatory or tubercular state of the lungs. It was in high repute among the Greek and Roman physicians, who, when employing it as an expectorant, usually combined it with yolk of egg; and it has maintained its character to the present day. In the tubercular or serofulous variety, as it is often called, it has frequently been united with some other preparation, as diaphoretic antimony, with which it was joined by Hoffman, dulcamara by Videt\*, and cinchona by Dr. Trotter.†

The vulnerary balsams and resins, however, have been more generally had recourse to, but ought rarely, perhaps never, to be employed in an early stage of the disease. Their action is common, and depends upon their possession of a terebinthinate principle, and hence they might be used indiscriminately, but that some of them are less stimulant and heating than the rest. Myrrh and camphor are among the least irritant, and may often be employed when we dare not trust to any other. Copaiba, though of somewhat greater balsamic pungency, has often been found essentially useful. Marryatt was peculiarly attached to it: he gave twenty drops of it night and morning upon sugar, and asserts that, when an ulcer has been formed, it ought never to be omitted‡; and

GEN. III.

SPEC. V.

Marasmus

phthisis.

Treatment.

Fourth inten-  
tion.Expectorants  
and demul-  
cents.The best de-  
mulcents vege-  
table mucilages:sometimes with  
the nauseating  
expectorants.

Sulphur.

Balsams and  
resins.Myrrh :  
Camphor ;

Copaiba.

proportion as the patient can bear it. See Lect. at Lond. Univ. as published in Med. Gaz. for 1833, p. 236. — Ed.

\* Médecine Expectante, tom. iii. p. 237. 8vo. Lyons, 1803.

† Medicina Nautica, vol. iii. p. 325. 8vo. Lond. 1814.

‡ Therapeutica. Lond. 1758.



GEN. III.

SPEC. V.

Marasmus  
phthisis.  
Treatment.  
Fourth inten-  
tion.

Hydrocyanic  
acid.  
Cherry-laurel-  
water.

Aconite.

Fifth curative  
intention.  
To excite a  
change of  
action.  
Blisters.

Setons, issues,  
and caustics.

Actual  
cautery :  
employed  
severely by the  
ancients.

Dr. Simmonds appears to hold it in nearly as high an estimation.\*

Many of the remedies, already enumerated under the present head, act with a sedative influence, and of opium we have already spoken. But there is a medicine, which immediately belongs to the present place, not yet noticed, that has of late years been strongly urged upon the public in the warmest terms of panegyric, and by many celebrated writers been regarded as a specific in consumption; and that is, the prussic or hydrocyanic acid. M. Magendie has been highly sanguine concerning it in France.† M.M. Brera, Manzoni, and Borda‡ in Italy, and Dr. Granville in our own country§; yet not a single case of actual cure in confirmed phthisis has hitherto been advanced by any of them. We have already noticed this powerful medicine as a most valuable subduer of nervous irritation in periodic nervous cough and hooping-cough, and there can be no question that it will often be found capable of acting in the same manner in phthisis. But, from the greater degree of debility and relaxation in this last than in the preceding diseases, we have more to fear from the mischievous effects of the prussic acid, which cannot always be guarded against, and which M. Magendie admits to have taken place occasionally with very fearful apprehensions, such as vomiting, diarrhœa, great depression of spirits, prostration of strength, and even syncope. And hence, if it be employed as a palliative at all, it should be in the earlier stages of the disease; for, in the latter, where it is most wanted, it is altogether unsafe, and must yield to most of the forms of opium. And the same remark may be made concerning aconite, another of the famous counter-stimulants of the present Italian school of medicine, and with which M. Borda tells us he has sometimes snatched the patient from the jaws of death.

V. The last part of the general therapeutic process, which has been attempted in most ages, has consisted in endeavouring to diminish or carry off the local affection by a transfer of action.

Blisters have very generally been applied for this purpose to the back or the chest. Their service is temporary, but often very efficacious, and they ought never to be neglected. It was formerly the custom to render them perpetual by the use of savine ointment or some other escharotic. But it is less painful and more beneficial to let the skin heal, and renew them after short intervals.

Setons, issues, and caustics, however, where the constitution is not very delicate, nor the habit very irritable, have proved far more powerful revellents, on account of their more violent stimulus and greater permanency of action. The actual cautery, though much abstained from in modern practice, from its apparent, and, indeed, real severity, was in almost universal use in ancient times; and, in the mode described by Celsus, was undoubtedly a

\* Practical Observations on the Treatment of Consumption. Lond. 1780.

† Recherches Physiologiques et Cliniques sur l'Emploi de l'Acide Prussique ou Hydrocyanique dans le Traitement des Maladies de la Poitrine, &c. Par F. Magendie, D.M. &c. 8vo. Paris, 1819.

‡ Storia della Febre Petecchiale di Genova, &c.

§ Observations on the Internal Use of the Hydrocyanic Acid in Pulmonary Complaints, &c.

very formidable operation. When the disease, says<sup>1</sup> he, has taken a deep root, the cautery must be applied under the chin, in the throat, twice on each breast, and under the shoulder-blades; and the ulcers must not be healed as long as the cough continues.

The obvious intention is to produce a revulsion, and hence, by transferring the morbid action to a part of less importance, to allow the lungs to return to a healthy condition. Such transfer may, by these means, in some cases be rendered total, though, in general, the morbid irritation is only partially, instead of entirely, carried off. There are other means, however, by which it seems to be removed altogether, although they are seldom put into our hands.

Thus M. Bayle's fifty-third case is that of a medical man who was fully prepared to meet his fate, and resolved to take no medicine whatever. At this time a severe rigor from an unknown cause attacked him, succeeded by a sweating-fit so profuse that his linen was changed two-and-twenty times in a night, and even this was not sufficient. The paroxysm proved critical, and the disease was thus carried off by an ephemera.\*

Sir Gilbert Blane gives an account of a like singular and salutary change excited by a hurricane at Barbadoes in 1780, which produced such an effect on the air or on the nerves of the sick, that some who were labouring under incipient consumption were cured by it: while others who had reached a more advanced stage were decidedly relieved, and freed for a time from many of their symptoms.†

No affection seems to keep a consumptive diathesis in so complete a state of subjugation as pregnancy. Most practitioners have seen cases in which a female has dropped all the symptoms of phthisis upon conception, and has continued free from the disease till her delivery. Suckling does not seem to continue the truce; but, if she conceive again shortly afterwards, she renews it; and there have been instances in which, from a rapid succession of pregnancies, the suspension has been so long protracted that the morbid diathesis has run through its course and entirely subsided, leaving the patient in possession of firm and established health.

As one disease, therefore, or state of body, is well known to have a frequent influence upon another, and consumption is found to be thus influenced by various affections, it is a question well worth enquiring into, whether there be any malady of less importance, which, like cow-pox over small-pox, by forestalling an influence on the constitution, may render it insusceptible of an attack of phthisis? Dr. Wells, not many years ago, very ingeniously engaged in an enquiry of this kind, and, finding that it was common for the consumptive in Flanders to remove to the marshy parts of the country where agues were frequent, began to think, not indeed that agues might give an exemption from consumptions, but that the situation which produced the former might prove a guard against the latter. And, so far as his topographical investigations have been carried, and they have extended over some part or other of all the quarters of the globe, this opinion has been

GEN. III.

SPEC. V.

Marasmus

phthisis.

Treatment.

Fifth intention.

Sometimes the morbid irritation has hereby been entirely carried off.

Carried off by a paroxysm of ephemera.

By a hurricane.

Suspended by pregnancy:

and sometimes radically cured by it.

How far any other disease may be employed as a preventive.

Enquiry of Wells upon this subject.

Whether an atmosphere productive of agues does not indispose to consumption.

\* Recherches sur la Phthisie, &c. ut supra.

† Observations on the Diseases of Seamen, 8vo. Lond. 1785.

## GEN. III.

## SPEC. V.

Marasmus  
plithisis.  
Treatment.  
Fifth intention.  
His investiga-  
tions support  
this idea.  
Those of  
Southey are  
not favourable  
to it.

countenanced; for he has discovered that, wherever intermittents are endemic, consumption is rarely to be met with, while the latter has become frequent in proportion as draining has been introduced.\* The later enquiries of Dr. Southey do not support this hypothesis, but the question is yet unsettled, and well worth pursuing; and Mr. Mansford, who practises in the interior of Somersetshire, has, still more lately, published a work, which, though not written as a defence of Dr. Wells's opinion, indirectly confirms it, by endeavouring to prove that a low, inland situation, like the vales of his own country, is far better calculated as a residence for consumptive patients than the air of mountains, or of the sea-coast.†

## GENUS IV.

## MELANOSIS.‡

## MELANOSE.

SECRETION OF A BLACK MATERIAL, MORE OR LESS INSPISSATED;  
STAINING OR STUDDING THE VISCERAL AND OTHER ORGANS.§

## GEN. IV.

Compared with  
other tuber-  
cular diseases:

and more ex-  
tensive than  
any of them:

sometimes  
diffused;

THE tubercles and tubers of struma chiefly originate in the texture of the glands, especially the lymphatic, and are often confined to them. There are other tubercles, as those of mesenteric tabes, that spread rapidly into different textures, and sometimes originate in them. But there are none that seem to commence or extend over so large a field as those we are now about to describe, or so seriously to affect the constitution.|| There is not, indeed, a single organ of the simplest or most complicated kind, from the cellular texture to the unravelled elaboration of the brain, which is not occasionally loaded with them; while, in various parts, the black pigment, which gives them their hue, is found diffused in extensive sheets, without tubercles, or the pulpy matter that fills their cysts; transforming the natural colour of the organs, to which it is conveyed, into its own morbid jet. [The most frequent seat

\* Trans. Medico-Chir. Soc., vol. iii. p. 471.

† Enquiry into the Influence of Situation on Pulmonary Consumption. By J. G. Mansford, &c. 8vo. 1818.

‡ Melanose, Laennec; Melanoma, Dr. Carswell; Black Cancer, Baron Du-puytren.

§ " True melanosis consists in the formation of a morbid product of secretion of a deep brown or black colour, of various degrees of intensity, unorganised, the form and consistence of which present considerable variety, solely in consequence of the influence of external agents." (Dr. Carswell, in Illustrations of Elementary Forms of Disease, fasc. iv.) — Ed.

|| If we advert to tubercular diseases of the lungs, peritoneum, spleen, and some other organs, and at the same time recognise them, with many of the best modern pathologists, as scrofulous affections, some of our author's doctrine, as here laid down, will appear incorrect. — Ed.



of true melanosis, however, is found by Dr. Carswell to be the serous tissue, more especially where this tissue constitutes the cellular element of organs. Here the melanotic matter accumulates in the cells, and forms tumours of various sizes. Its formation, as a secretion, is still more conspicuous in the loose cellular tissue, and especially on extensive serous surfaces.]

The last change has hitherto been found chiefly in the bones, but sometimes also in the membranes, and even the parenchyma of organs, constituting, in the language of M. Breschet, a false membrane or membranous expansions on the surface of the mucous and other textures; and it is hence possible that examples may hereafter be met with of a generally DIFFUSED, as well as a generally TUBERCULAR, form of the disease. But, as the second, with a few local exceptions, is the only mode under which it has hitherto appeared \*, we have at present but one species of the genus, which we shall proceed to describe under the name of

GEN. IV.

and may perhaps be found generally diffused :

but the tubercular the most frequent species.

MELANOSIS TUBERCULARIS.

TUBERCULAR MELANOSE. †

\* Since the period when this was written, melanosis has been investigated with considerable attention, and our knowledge of its nature has been much extended. We are now aware that it presents itself in various forms, which have been treated of with great ability and discrimination by Professor Carswell, in his *Illustrations of the Elementary Forms of Disease*, fasciculus iv. Lond. 4to. 1834. He divides melanotic formations into two kinds, the *true* and *spurious*. Thus, when these formations or products depend on a change taking place in that process of secretion, whence the natural colour of certain parts of the body is derived, or, in other words, when they constitute what is called an idiopathic disease, he considers them as belonging to the first kind: and, when they originate in the accumulation of a carbonaceous substance, introduced into the body from without, the action of chemical agents on the blood, or the stagnation of this fluid, he includes them in the second kind. — Ed.

† Four varieties, or species, are described by Professor Carswell, namely, — 1. Punctiform. 2. Tuberiform. 3. Stratifiform. 4. Liquiform. The tuberiform, which is by far the most common, corresponds to Dr. Good's melanosis tubercularis, or the *melanose en masse*, of French pathologists. Tuberiform melanosis agrees with the "concrétions mélaniques;" punctiform with the "mélanose infiltrée;" stratiform, with the "mélanose membraniforme;" and liquiform, with the "mélanose liquide" of Laennec, Breschet, Andral, and other writers. It was Breschet, who applied the term liquid melanosis to one of the varieties. — Ed.

## SPECIES I.

### MELANOSIS TUBERCULARIS.

#### TUBERCULAR MELANOSE.

THE BLACK SECRETION PULTACEOUS, IN ENCYSTED \* TUBERCLES, PEA-SIZED OR WALNUT-SIZED, SCATTERED IN GROUPS OVER MOST OF THE ORGANS; CHIEFLY BELOW THE SURFACE, SOMETIMES UPON IT: FEVER MOSTLY A HECTIC: GREAT DEBILITY. †

GEN. IV.

SPEC. I.

Only lately noticed:  
except amongst  
animals.

Charbon, what.

Morbid deni-  
gration.

It is singular that this very striking disease should not have been traced, or rather, perhaps, not have attracted much of the attention of pathologists, till a few years back, at least in the nosology of man. For it has been long observed in many kinds of quadrupeds, as the dog, cat, hare, but especially the horse, and, among the veterinary surgeons of France, has obtained the name of charbon, or *maladie charbonneuse*. It is, however, to the ingenious anatomical researches of MM. Laennec and Bayle ‡ that we are indebted for our first knowledge of the disease as it exists in man §, and for the very appropriate generic name of MELANOSIS ||,

\* “*Tantôt la matière est enkystée, tantôt elle n'est contenue dans aucun réservoir; et elle paroît être exhalée à la surface des tissus, ou épanchée dans une cavité.*” (Breschet.) “*La mélanose en masse peut être entourée d'un kyste, ou en être dépourvue. Le premier cas est infiniment plus rare que le second.*” (Andral, *Précis d'Anat. Pathol.*, tom. i. p. 451.) Laennec's distinctions of encysted and unencysted melanosis are of much less importance than similar distinctions in relation to cancer; in fact, cysts are rarely met with, and, when they are present, consist of such a cellular loose tissue, that they have little effect as boundaries to melanotic humours. (Blandin, *Dict. de Méd. et de Chir. Pratiques*, art. MÉLANOSE.) According to Dr. Carswell, melanosis is perhaps never found encysted in compound tissues or organs, as the brain, lungs, liver or kidneys; whereas it is always so in the cellular and adipose tissues, and sometimes also on the surface of serous membranes. See *Illustrations of the Elementary Forms of Disease*, fasc. iv. — Ed.

† In the majority of cases, melanosis does not produce great constitutional disturbance. We find it sometimes attaining considerable magnitude in the liver, and in the common cellular tissue, without giving rise to any functional derangement sufficient to excite the suspicion of its existence: it may merely occasion a degree of uneasiness by its mechanical effects on the contiguous parts. — Ed.

‡ See *Journ. de Méd. de Corvisart*, &c. tom. ix. p. 368.

§ Breschet assigns the honour of having first described this organic affection to Dupuytren, who declared, when MM. Bayle and Laennec (*Bulletins de la Soc. de l'École de Méd.*, No. ii. 1806) published their observations, that he had for several years described the disease in his lectures. Some controversial papers on this point may be seen in Corvisart's *Journ.*, tom. ix. p. 360. and 441., and tom. x. p. 89. and 96. An allusion to the disease, however, may be traced in the writings of Morgagni, Bonetus, and Haller. In *Epist. iv. No. iv. De Sedibus et Causis Morb.*, Morgagni informs us, that in one body which he opened, the lungs looked as if they had been stained with ink; and in another place, he describes the lungs as having been found indurated and black. In a dropsical patient, the liver, after death, was also black. (*Epist. vii. No. xi.*) In Haller's *Opuscula Pathol.*, obs. xvii., notice is taken of an example in which the lungs were found not filled with pus, but with a matter as black as ink; and of another case, in which the author met with black matter in the cavity of the chest. — Ed.

|| Breschet says, however, “*Cette désignation ne se trouve ni très-rigoureuse*

OF MORBID DENIGRATION, by which it is now generally distinguished.

[The colour of melanosis varies from dark yellow to brown, deep blue approaching to black, and to complete black, which is the most common. It is readily detected by its peculiar shades of colour in any organ containing it; more especially as the surrounding tissues are lighter coloured, and form a contrast with it. No smell proceeds from it, a circumstance distinguishing it from gangrene, which always emits a very offensive odour; nor has it any particular taste, a character which belongs to it, in common with most other morbid formations. The minute texture of melanosis is little known: if we except the cyst, no vessels nor nerves have been discerned in it; and it seems as if it were an inorganic substance deposited in or upon various parts. The melanosis, described in the definition prefixed to this article by Dr. Good, is the most common or the tubercular variety of it, but it presents itself in other shapes.\* The melanotic deposit takes place in three distinct forms: 1st, Very much divided and suspended in liquids; hence the black tinge of the serous fluid of certain cavities, and especially as frequently presented by the serosity of the peritoneum, when the liver, bowels, stomach, or uterus, are the seats of cancerous disease.† Breschet, Andral, and Cruveilhier, describe a melanotic secretion from the surface of a mucous membrane, or the cavity of the stomach; but, in doing so, it seems to Professor Carswell, that they have mistaken the black discoloration of the blood, produced by the action of the gastric juice on this fluid, when effused, for true liquiform melanosis.‡ 2dly, As a very thin layer spread over serous membranes, the stratiform, or membraniform melanosis. In this case, it sometimes exhibits a fine glossy black colour, resembling that of Indian ink. The layers are more or less extensive; and M. Mèrat has seen the whole of the peritoneal coat of the intestines covered with them. The matter is adherent to the serous membranes, which are almost the only

GEN. IV.

SPEC. I.

Melanosis  
tubercularis.Varieties of  
melanose.

ni très-exacte, car on voit plus souvent ces matieres être jaunes-brunes, couleur de suie ou de bitre, que véritablement noires. Cependant j'en ai rencontré, qui étoient parfaitement noires, et qui coloroient les tissus de lin et le papier, comme le fait la solution aqueuse de l'encre de la Chine." See Journ. de Physiol., tom. i. p. 354. — Ed.

\* This form is exemplified occasionally in most of the organs of the body, and also sometimes on serous surfaces, as the pleura and peritoncum. In compound organs, the disease is generally a single swelling; but in the cellular and adipose tissues, there is an aggregation of tumours, producing tuberculated masses. In the liver, lungs, and kidneys, according to Dr. Carswell, the tuberiform melanosis is always combined with the punctiform. — Ed.

† Breschet, in Magendie's Journ., tom. i. p. 359. Laennec takes no notice of the fluid variety. Indeed, as he describes melanosis as a *tissue*, he could not regard a liquid as meriting the name. But other pathologists, who look upon melanosis as a simple deposit of unorganised colouring matter, have no more difficulty in conceiving its fluid than its solid state. The liquiform variety of true melanosis has in general been confined to natural or accidental serous cavities. Dr. Carswell has never seen it in man as a product of secretion, but has met with it in consequence of the destruction of melanotic tumours, and the effusion of their contents into the serous cavities, the walls of which they had perforated. The accidental serous cavities, in which it is found, are those which constitute cysts, particularly in the ovaries. — Ed.

‡ See Carswell's Illustrations of the Elem. Forms of Disease, fasc. iv



GEN. IV.  
SPEC. I.  
Melanosis  
tubercularis.

ones upon which it assumes this form; but they are not at all altered by it, being neither thickened, nor otherwise affected; and it is remarked, that individuals, who die with this modification of melanosis, do not fall victims to it, but to other organic changes. Layers of black matter are noticed on some portions of the mucous system, as on the tongue in typhoid and other fevers; and Mérat even conceives, that such appearance is a specimen of one kind of melanosis. 3dly, Melanosis most frequently assumes a globular shape, or the form of a tubercle, varying from the size of a millet-seed to that of an egg, or even a larger body. Its shape is moulded by the containing parts; and hence it is in general less symmetrically spherical in soft parts, and more regularly globular in such as are firm. 4thly, A fourth variety is that in which the disease is diffused through certain tissues, the "*mélanose infiltrée*" of Laennec, the "*punctiform melanosis*" of Carswell.\*]

Cause, progress, and treatment obscure.

Most striking symptoms.

Said to be often attended with chronic bronchitis.

The cause, progress, diagnosis, and mode of treatment of tubercular melanosis are at present obscure and unsatisfactory. The individual labouring under it frequently exhibits, when he first applies for help, a considerable degree of febrile excitement, debility, and oppression in the thorax or abdomen; most commonly about the pleura or in the loins.

Every case of melanosis, that came under the observation of Dr. Armstrong, was accompanied by more or less chronic bronchitis, which, however, he admits, is not sufficient of itself to produce melanosis, as numerous examples of it take place without any traces of the latter affection.† [Melanosis is alleged to be more frequently combined with carcinoma than with any other disease; but, as Dr. Carswell observes, there is no similarity between these two diseases, their anatomical, physical, and chemical characters being totally different. Several varieties of the former (regarded as such in Dr. Carswell's classification) are highly organised, while melanosis itself is an unorganised substance, injurious only from its quantity, the number of organs which it affects, its situation, and mechanical operation. In Dr. Carswell's work may be seen representations of melanosis, combined with fibrous, carcinomatous, and erectile tissues.]

Incursion.

The above, however, are not always the introductory symptoms; for the disease sometimes commences with catarrhal or rheumatic affections after exposure to cold, succeeded by shivering fits.‡

\* The punctiform melanosis appears in minute points or dots, grouped together in a small space, or scattered irregularly over a considerable extent of surface. Such appearances are most frequently seen in the liver, the ent surface seeming as if it had been dusted over with soot or charcoal powder. When examined with the aid of a lens, the black points sometimes present a stellated or penicillated arrangement, which, in some cases, can be distinctly seen to originate in the ramiform expansion of a minute vein, filled with melanotic matter. At other times, this matter appears to be deposited in the molecular structure of this organ, consisting of the most minute points disseminated throughout the acini of the liver, of various depths of shade, terminating in black. See Carswell's Illustrations of the Elementary Forms of Disease, fasc. iv. — Ed.

† Morbid Anatomy of the Bowels, &c. p. 25. 4to. Lond. 1828.

‡ Melanosis often produces, at its first formation, no disturbance of the health, and the existence of the disease is frequently not suspected previously to dissection. However, several patients were cut off by the disorder, who had a sallow complexion, excessive debility, and more or less œdema, being in a state very similar to the advanced stage of seury. See Magendie's Journ., tom. i. p. 365. — Ed.

The patient seems generally unwell for the first five or six weeks after this attack; but when it has once firmly established itself, and evinced the thoracic or abdominal signs just adverted to, it proceeds with a rapid and fatal step, and, in about a fortnight, he falls a victim to the hectic fever, perspiration, emaciation, and debility by which he is jointly assaulted: the prodromi or ineursive symptoms, whether affecting the loins or chest, usually giving way before the closing scene arrives, and deceiving the sufferer, and sometimes even his medical attendant, into a belief that he is improving; when he suddenly sinks from debility alone.

If the patient be examined accurately at this time, a few tubercles or clusters of tubercles may occasionally be felt under the skin, especially that of the abdomen or of the breasts. And sometimes also a cyst, much larger than the rest, may be found projecting, and even forcing its way externally through the integuments. In a few instances, this larger cyst ulcerates, of which a striking example occurred to M. Breschet in 1821, and is particularly noticed by Mr. Cullen. In the right groin of the patient, who was a female, an ulcerative surface was perceived about as large as a crown piece, the bottom of which consisted of the ordinary black material of the disease before us, jetty as China ink, of the consistence of cream above, but much more inspissated below, where it was in contact with the cellular texture. There were sufficient proofs that it was not a mere sloughing sore; among which it may be observed, that it was destitute of fœtor, and that in its immediate vicinity, as well as in other parts of the body, as was afterwards ascertained by opening into them, there was a crop of defined melanotic tubers of different forms and diameters.

One of the best marked instances upon record is the following, which occurred to Professor Alison in the Royal Infirmary, Edinburgh. The patient's name was Rachael Bruce, and she was admitted on the 3d of June.\* She complained of severe pains shooting down from the loins to the inferior extremities, and to the abdomen. She had similar pains in the right shoulder and arm, increased in the night-time, or by motion. She had become weak and emaciated since her complaints began, and was liable to shivering, followed by flushing and profuse perspiration, which increased her debility without relieving her pains. The abdomen was swelled, but did not fluctuate on percussion, and the distention varied in degree at different hours of the day. She had thirst, with scanty, high-coloured urine, not coagulating by heat. The integuments of the abdomen were flaccid; and a hard, moveable tumour could be felt in the iliac and hypogastric regions. She was also liable to paroxysms of dyspnœa during the night. Her appetite was impaired. She had a bad taste in the mouth, with white and dry tongue. Her bowels were reported to be regular; but she had occasional nausea.

She stated her complaints, which were of five or six weeks' standing, to have commenced, after exposure to cold, with shivering and pain, and stiffness of the loins, and of the hip and knee-joints of the left side. The enlargement and induration of the abdomen had been remarked only during the last fortnight.

\* On Melanosis by W. Cullen and Robert Carswell; Trans. of the Medico-Chir. Soc. of Edin., vol. i. p. 275. 1821.

GEN. IV.  
SPEC. I.  
Melanosis  
tubercularis.  
Progress.  
Fatal issue.

Tubercles may  
often be traced  
externally.  
Sometimes  
altered when  
large.  
Exemplified.

History drawn  
from the life:  
a case of  
Alison's.  
Complaints on  
application.

Whence  
originated.

## GEN. IV.

## SPEC. I.

Melanosis  
tubercularis.

Progress.

Fatal termin-  
ation.Sometimes  
more rapid.Exemplified  
from Home.Usual treat-  
ment.Suggestions  
upon treatment.Dover's powder  
with iodine.Hydrocyanic  
acid.

Up to June the 20th, being seventeen days from the time of admission, the symptoms continued with little variation. On the 21st were perceived several small painful tumours on the integuments of the abdomen, which she declared to have existed from the commencement of her illness. She was on this day examined by a skilful accoucheur, who reported the tumour felt in the hypogastric region to be unconnected with the uterus. On the 24th, a copious sweating, with involuntary discharge of urine, was added to the other symptoms. From this moment, there was great debility with decided hectic fever; and a tendency to sloughing of the sacrum. On the evening of the 7th, she had vomiting of a dark-coloured matter, and soon afterwards died.

The course is usually more rapid: and in the case of John Houston, a shoemaker, admitted into the same Infirmary under the care of Dr. Home, extended only to thirteen days. His chief symptoms at the time of admission were those of pleurisy, with a severe cough and difficult expectoration. The bladder was also affected; and on the eighth day he was troubled with painful hemorrhoidal tumours, probably produced by the action of repeated purgatives. The other symptoms gradually diminished, but the debility increased. On the twelfth day, as we learn from a diary of the symptoms and treatment, furnished us by Sir Andrew Halliday, his pulse was 112; heat  $98\frac{3}{4}$  Fahrenheit; he was allowed a beef-steak, and a quarter of a pint of sherry. On the ensuing night, he made complaint of great weakness; his pulse quickened to 140, and he died at four in the morning.\*

The treatment is yet to be learnt; and the cases before us afford little instruction upon the subject. The first was resisted by little more than palliatives, as leeches, laxatives, anodynes, and Dover's powder. The second unfolds a bolder plan, though the patient still sooner reached his end. It consisted in venesection to sixteen ounces, two days in succession, and powerful purgatives, at first often repeated, of calomel, jalap, and sulphate of magnesia, &c. But this was not long continued, no benefit appearing to issue from it; and it yielded to sedative mucilages and a tonic diet.†

In reasoning speculatively, we should speak with great modesty. But admitting the material which forms the tubercles to be a peculiar secretion, and that the constitutional excitement consists mainly in this new and stimulant action, perhaps it may, in future cases, be found useful to combine the two intentions of allaying the peculiar irritation, and, at the same time, urging the secretions to a renewal of their proper action; or, in other words, to employ the conjoint force of sedatives and counter-irritants; which may be effected by an union of opium, or Dover's powder, with the tincture of iodine. The great and beneficial influence, which the latter is well known to exercise in many cases over strumous tubercles, should indicate its use on the present occasion. And it is also not improbable, from the approach which the disease seems occasionally to make to the more irritant cases of phthisis, in its excitement of the chest, and its hectic fever, that the hydrocyanic acid might at

\* Lond. Med. Repos., vol. xix. p. 442.

† Sir Andrew Halliday, ut *suprà*.



times, with great advantage, take the place of all other sedatives. Such coincidences of symptoms, moreover, show us clearly the place, which melanosis should occupy in a digested nosological arrangement.\*

Before hazarding a syllable upon the physiology of this very extraordinary disease, it is requisite to put the reader into possession of the general appearances afforded by post-obit examinations; and the case already alluded to, as under Professor Alison's care, is admirably adapted to this purpose, if put into an abridged form.

The body evinced great and general emaciation, and various small dark-coloured tumours, perceptible during life, were still distributed over it. In the mamma, these were largest and most numerous: they were traced in cysts, and embedded in the cellular substance; and when cut into were found to contain a deep black-coloured matter, of a soft and pulpy consistence. Within the abdomen, most of the cellular and adipose textures had disappeared. The peritoneum lining the parietes was of a blackish colour, and the black matter was irregularly deposited in strike and spots upon the inner side of the membrane, which had lost much of its natural transparency. The omentum presented a similar appearance, and several globular shining tumours of a black colour were appended to it, which, when cut into, poured out a similarly coloured fluid. Spots and tubercles of a like kind were traced in the serous or outer membrane of the intestines, and between the folds of the mesentery. The ovaria were several times as large as their natural size, seated in front of the uterus, and occupying the lateral iliac regions. Their external surface had a dark, shining, lobulated appearance, with numerous ramifications of vessels upon the peritoneal covering; beneath which, black matter was irregularly deposited in spots, giving a mottled appearance to the whole. When cut into, their substance was uniformly black. The cellular texture still retained its consistence, and vessels containing red coagulated blood could be traced through it. Several distinct cysts or cavities were found in their substance, which poured out a black liquid when opened. The kidneys, liver, spleen, and the mucous or interior membrane of the stomach and intestines, were all free from black matter, although it was deposited in the cellular tissue connected with these organs. On uncovering the breast-bone and skull-cap, it was observed, that the whole texture of the sternum, the anterior portion of the ribs, and a great part of the parietal and occipital bones, were black, more brittle, and of softer consistence than natural, but without enlargement or ulceration. The pericranium was nearly natural, but the whole inner table of the skull, when removed from the dura mater, was of a darker hue than natural, and in some places, where the black matter was deposited in irregular patches of the bone, there were corresponding stains on the surface of the dura mater. The substance of the brain was healthy, but a few black striae were discernible in the membranes,

GEN. IV.  
SPEC. I.  
Melanosis  
tubercularis.

Post-obit  
appearances.

\* When a melanotic tumour is so situated as to admit of being removed with a knife, this is the proper practice. In the human subject such an operation has been done for the extirpation of the eye affected with this extraordinary disease. Melanotic tumours have often been successfully removed from horses. See *Archiv. Gén. de Méd.* Jan., 1828, p. 180. — Ed.

## GEN. IV.

## SPEC. I.

Melanosis  
tubercularis.

and the tunics of several of the vessels. A large quantity of serum was effused under the arachnoid membrane and in the ventricles. Within the thorax, the costal pleura and surface of the lungs were studded with black tubercles like those of the integuments, while some of them were larger. The substance of the lungs was dark, and some minute tubercles were embedded in it, and like spots were noticed beneath the pericardial coverings of the heart, which contained some coagulated blood in its cavities, and was softer than usual.

Additional  
appearances  
traced occa-  
sionally.

It should further be observed, that in a few places in the present subject, but more generally in others, the black material varied considerably from its ordinary degree of consistence, and, instead of being pulpy or nearly solid, was a fluent liquid; and that several of the tubercles were filled with a white and brain-like substance, while those that surrounded them were of a deep jet.

Early physiolo-  
gical opinions  
respecting the  
nature of the  
disease; found  
to be erroneous.

The first opinion formed respecting the nature of these enlargements by MM. Breschet and Laennec was, that the dark material was congested blood that had escaped from the capillary vessels into the cellular substance by a rupture of their coats, or by anastomosis from relaxation. But this conjecture was soon found untenable, as it was sufficiently ascertained, that the material is a distinct secretion, and is now supposed to be a secretion *sui generis*. Nor is another opinion of M. Laennec's much more tenable, which advances that the black material evinces different stages of elaboration; that when first thrown forth it is pultaceous or nearly solid, and in a state of crudity, but that it gradually matures, and advances to a state of ramollissement or fluidity. For it is well observed by Dr. Cullen, that, were this true, we should expect to find the largest cysts or reservoirs in the highest state of liquefaction, and the smallest in the highest state of solidity; the contrary of which is usually the course pursued. [Mr. Fawdington\*, however, follows Laennec in placing the stage of fluidity posterior to that of solidity. At first it seems difficult to conceive how the melanotic matter can be originally deposited in any other than a liquid form; and, if in a solid state, how, from its inorganic nature, it can undergo the process, by which it is afterwards softened. Yet, that tubercles of the lungs are first solid, and afterwards soften, though their substance has no organisation, is the general belief.†]

Whether the  
matter evinces  
different stages  
of elaboration.

This also in-  
correct.

It is also justly remarked by Dr. Cullen, of Edinburgh, that the characters of tubercular melanosis completely distinguish it from cancer and fungus hæmatodes; since it is well known to exist with-

Distinguished  
from cancer  
and fungus  
hæmatodes.

\* Th. Fawdington, a Case of Melanosis, with General Observations on the Pathology of this interesting Disease, 1826.

† M. Blandin supports Laennec's view, by observing, that melanotic tumours may change into a softened state, particularly when they are situated near the surface; the skin becomes thin and ulcerates, and from the surface of the sore is discharged a glutinous black matter, which is characteristic of the disease. A case exemplifying these changes was seen by M. Blandin in the Salpêtrière, and the particulars of it were published by M. Breschet. (See Journ. de Physiol. Expériment., tom. i. p. 354.) The old woman, the subject of it, and who is referred to in our text, had melanotic tumours in the right groin, thigh, and breasts. It seems that the part, after having ulcerated, will sometimes form granulations, and heal. This fact was illustrated in a horse, from which M. Damoiseau removed a melanotic tumour, as related by M. Trousseau. Archives Gén., &c. Juin, 1828, p. 180. — Ed.

out local pain \*, and to propagate itself by cysts and boundary lines, while both the others are accompanied with severe lancinating pains, and burst through every bond, and extend their ravages in every direction.

[Dr. Armstrong, in noticing the opinion that melanosis, like tubercle, scirrhus, and fungus, is associated with an organised affection *sui generis* of the solids, takes the opportunity to remark, that, in all the cases examined by him, the disease seemed to be nothing but a secretion, sometimes occurring in textures otherwise apparently natural, sometimes in those chronically inflamed, and sometimes co-existent with either scirrhus or fungus.† It is a peculiar feature in the nature of melanosis, that the animal textures are never, strictly speaking, converted into it, unless it be proved that the oily matter of the cellular tissue undergoes this change; and, even on this supposition, it would be the conversion of an inorganic secretion, rather than of an organic issue, into melanosis. On the contrary, the new matter is deposited in the substance of the textures or organs, or between their component fibres. These circumstances, together with its appearance in several of the bones, where it seems to have occupied the situation of the marrow ‡, would give some countenance to the notion that melanotic matter was a diseased modification of the adipose secretion. To this idea, however, an objection is presented in the melanotic masses found occasionally in the liver, spleen, and substance of the kidneys. Its occurrence in the pancreas forms little or no valid objection; for the quantity of adipose cellular substance, with which the portions of this gland are connected, might be regarded as the primary matrix of the morbid deposition.§ All this, however, is only conjecture; but the following observations respecting the anatomical distribution, and preference to certain textures, exhibited by melanosis, seem to be founded upon the careful consideration of facts.

First, The cellular tissue and adipose membrane are both most abundantly and most generally the seat of the melanotic deposition; that is to say, of the tubercular melanosis. The subcutaneous and intermuscular cellular tissue is a common situation of it; as well as other parts of great laxity, where the cellular membrane is abundant, as in the genital organs, around the rectum, within the pelvis, and on the forepart, or at the sides, of the spine.

Secondly, The delicate cellular tissue which connects the serous membrane to contiguous parts, and to the enclosed organs, presents this melanotic deposit nearly in the same, if not in a greater degree, than the common cellular membrane. This was particularly noticed in the case recorded by Mr. Fawdington. In Dr. Home's patient,

GAS. IV.

SPEC. I.

Melanosis  
tubercularis.

Said by Dr. Armstrong not to be essentially connected with organic disease of the solids.

Melanosis has been conjectured to be a conversion of the adipose matter into the dark substance of the disease.

Structures in which it is most frequently noticed.

\* " Comme elle (la mélanose) paroît être absolument insensible, les viscères où elle existe ne manifestent aucune douleur, même à la pression; s'il y a de la douleur, on peut affirmer, que cette lésion organique n'y est pas seule. La mélanose seroit entièrement sans inconvénient, si elle ne gênait pas par son volume des viscères essentiels." Dict. des Sciences Méd., tom. xxxii. p. 185.

— F.

† See Armstrong's Morbid Anatomy, &c. p. 24. 8vo. Lond. 1828.

‡ Brociet states, however, that he has never seen melanosis in the central cavities of the bones, in the synovial membranes, nor in cartilages. See Magendie's Journ., tom. i. p. 364.

§ See Edin. Medical Journal, No. xc. p. 162.



GEN. IV.  
SPEC. I.  
Melanosis  
tubercularis.

though the pleura was studded with melanose tubercles, no mention is made whether they were upon or under it; but, as the lungs are described as extensively occupied by melanotic masses, there is reason to infer, that this is meant of the cellular tissue beneath the pleura, and connecting that membrane to the pulmonic lobules. In like manner, when, in the same case, the substance of the heart is said to be affected; when, in the case of Rachael Bruce, spots are said to have been noticed beneath the pericardiac coverings of the heart; and when, in Mr. Fawdington's case, the surface of the heart is described as covered with melanose spots, chiefly subjacent to the pericardium; little doubt can be entertained, that the tissue of melanotic infiltration is the subserous and intermuscular structure. Infiltration of the abdominal subserous cellular tissue is particularly remarked in the case of Rachael Bruce, related by Dr. Cullen and Dr. Carswell, and also in Mr. Fawdington's examples. Next to the cellular and adipose tissue, several of the internal organs, termed parenchymatous, are most frequently the seat of the disease. Thus, not only the lungs (which, indeed, by the French writers are deemed the most common situation\*), but the liver, the spleen, and the kidneys, are stated, in the case of Houston, to have been occupied with melanotic masses. In Mr. Fawdington's case, the liver, pancreas, spleen, and kidneys, were extensively affected; while in Dr. Alison's case, though the substance of both mammæ and of both ovaries were completely melanosed, the liver, spleen, and kidneys were exempt from the disease. When melanotic tubercles take place in the liver, they are frequently of considerable size, and sometimes as large as an egg.

Lastly, It is to be observed, that, in the case of Houston, one of the ribs and a part of the clavicle were melanosed. In that of Rachael Bruce, a part of the inner table of the skull was darker than natural, and the surface of the bone was stained with particles of black matter. A great part of the parietal and occipital bones was black, less consistent, and more brittle, than natural; and similar changes were observed in the sternum and sternal ends of the ribs. According to Breschet, the parts of bones connected with the muscles, are most commonly affected. Some textures seem either quite exempt from melanosis, or only to be very slightly affected by it. Thus the nerves, the proper arterial tissue†, and muscular fibre, are scarcely ever the seat of it; and it is doubtful, whether the serous and mucous membranes ever become penetrated by the melanotic deposition.‡ The above critic errs, however, in setting down the skin as rarely or never affected. In the cutaneous texture, says Breschet, melanoses are common; and he has found an infinite number of small black tumours, resembling grains of cassia, situated in the skin, and appearing to originate

Textures in  
which it is  
rare.

\* "Le poumon est, de tous les viscères, celui où on les voit le plus fréquemment." *Diet. des Sciences Méd.*, tom. xxxii. p. 185.

† This is true, notwithstanding, as Breschet remarks, "les vaisseaux sanguins sont parfois entourés de ces tumeurs, et le vaisseau est caché au milieu de la matière mélanique."

‡ See *Edin. Med. Journ.*, No. xc. p. 157.; also Dr. Cullen and Dr. Carswell, in *Edin. Med. Chir. Trans.*, vol. i.; and Fawdington's Case of Melanosis, 1826.

from the rete mucosum. An example of this kind, which was seen by Breschet, is recorded by Alibert, who denominates it *cancer mélané*. \* It ought to have been mentioned, that melanosis often attacks the lymphatic glands, the eye, and fat of the orbit; and that traces of it are frequently met with, as Dr. Armstrong confirms, in various diseased structures.]

We have reason to conclude, that the disease before us is at first local, or commences in a particular organ; and that, from the general sympathy of the secernent system with the part where it first appears, it ramifies in every direction, over the most solid and compact, as well as over the most loose and yielding textures; accumulating and forming reservoirs where there are cells or other hollows for its reception, and spreading as a jet dye or sheath on the surface, or through the parenchyma, where these are not.

[The doctrine of the disease being at first local, is liable to several objections: first, the great disorder of the health frequently preceding the melanotic formation †; secondly, the great extent of the affection, and the many internal organs found after death studded with melanotic tubercles; thirdly, some peculiarity of constitution appears requisite, from the curious circumstance, that the disease, when it occurs in horses, is chiefly observed in such as have a white or grey coat. ‡]

What is the nature of the black dye or pigment, and by what means is it produced? Much more attention to the subject is necessary, before any satisfactory reply can be given to this question. The material, to which it seems most nearly to make an approach, in temperate climates, is the black pigment of the choroid membrane, and perhaps that which is supplied from the rete mucosum as a colouring matter for black hair. Both these are evidently productions of the secernent system. They are indeed small in quantity; but if we turn our eyes to the intertropical climates, we shall find the same, or a like jet pigment, thrown forth over the entire surface, and continued by a permanent supply, as the dye antecedently furnished is carried off. And if we attend

GEN. IV.  
SPEC. I.  
Melanosis  
tubercularis.

Commence-  
ment and  
course of the  
disease.

Facts against  
the opinion  
that the disease  
is at first a  
local affection.

Enquiry concern-  
ing the  
nature of the  
black dye.

Allied to the  
black pigment  
of the choroid;

and still more  
to that of the  
rete mucosum  
supplying  
black hair;

\* See Magendie's Journ., tom. i. p. 361.; and Alibert, Nosologie, &c.

† This is not, however, a constant circumstance: many patients with melanosis have not suffered at first much constitutional disturbance; and Dr. Carswell, we know, ascribes the injurious effects of melanotic formations principally to their mechanical pressure on the neighbouring parts: they are not themselves organised. — Ed.

‡ See G. Breschet, in Magendie's Journ. Expér. de Physiologie, tom. i. p. 355. "The much greater frequency of melanosis in the grey and white, than in the bay, brown, or black horse, is a circumstance which may be noticed here as favourable to the theory which ascribes the origin of this disease to the accumulation in the blood of the carbon, which is naturally employed to colour different parts of the body, as the hair, rete mucosum, choroid, and other parts." (See Carswell's Illustrations of the Elementary Forms of Disease, fasc. iv.) Remarkable examples of melanosis in the horse are recorded by MM. Goyer and Rodet (Journ. de Méd. Vétérinaire, tom. ii. p. 273.); and MM. Trousseau and Le Blanc relate other interesting facts of the same kind. (Archiv. Gén. de Méd. Juin, 1828.) Speaking of the melanosis being principally seen only in white or grey horses, M. Blandin observes:—"On dirait que chez eux la matière colorante s'est, pour ainsi dire, réfugiée dans ces tumeurs." (Dict. de Méd. et Chir. Pratiques, art. MELANOSE.) Occasionally, however, melanosis is met with in horses of other colours, and both Rodet and Andral have noticed it in those of a bay colour. In the horse, melanotic tumours are most liable to form under the tail, whence they extend into the pelvis. — Ed.

## GEN. IV.

## SPEC. I.

Melanosis  
tubercularis,  
but most of all  
to the black  
rete mucosum  
of negro tribes.

Rapidity with  
which this is  
secreted in  
infants.

Both also  
secreted in a  
more fluid and a  
more concrete  
state.

Both evincing  
interruptions  
or patches of  
white.

Origin of the  
disease sup-  
posed by  
Armstrong to  
be facilitated  
by imperfect  
oxydation of  
the blood.

Chemical  
analysis.

to the curious economy which takes place in this subject respecting the children of negroes, we shall also find this material produced in very large abundance in a short time: for the infants of negroes, as we shall have occasion to observe more at large when treating of EPICHIROSIS or MACULAR-SKIN\*, are nearly fair when first born, and only become coloured with the black effusion a few weeks afterwards; which at first gives little more than a tawny hue, but gradually advances to a jet.

We shall also have occasion to notice, in the same place, that this black dye, like the pigment in melanosis, is on some occasions secreted in the form of a finer and more fluent liquid, and, in others, in a more inspissated state, and united with a coarser material, constituting the rete mucosum of Malpighi; who, moreover, gave it the name of rete from a belief that he was able to trace in it something of a fibrous structure; an idea that has not been realised by Cruickshank or any later anatomist. And it is not a little singular, that as in melanosis we sometimes meet with a few patches or tubercles of the preternatural secretion destitute of its colouring dye, and presenting a variegated appearance of black and white mosaic, so, in the distribution of the natural pigment of the negro over the surface, we sometimes meet with the same casual obstruction to the flow of the black dye, producing that marbled skin which gives the individuals the name of piebald negroes.

[According to the researches of Breschet and Cruveilhier, when the black matter of melanosis is not concrete, but liquid, or when it is deposited in layers on the surface of a serous or mucous membrane, the minute blood-vessels are filled with a black of precisely the same kind as that exhaled. †]

Dr. Armstrong suggests, that, as melanosis is frequently combined with chronic bronchitis, the venous character imparted to the whole mass of blood by this last disease may facilitate the dark and peculiar secretion of the first disorder. He observes, that the secretion peculiar to melanosis varies in colour from a dark brown to a deep blue or green black. It is sometimes spread, like so much paint, under the serous membrane of the intestines, for instance, or diffused through the substance of the spleen; while, in other cases, it is circumscribed in distinct patches, as in the parenchyma of the lungs, liver, or kidneys; in short, being occasionally found thus diffused or limited in most organs. ‡]

The chemical analyses of MM. Barruel and Lassaigue show that melanotic tumours consist, first, of coloured fibrin; secondly, of a blackish colouring matter, soluble in weak sulphuric acid, and in a solution of subcarbonate of soda, which become reddish; thirdly, of a small quantity of albumen; and, fourthly, of a chloruret of sodium, subcarbonate of soda, phosphate of lime, and oxyde of iron. The principles of melanosis, therefore, nearly resemble the

\* Vol. iv. Cl. vi. Ord. III. Gen. x. Spec. II. vi. and comp. with the introductory note to Gen. ix. Trichosis.

† When melanotic matter is found in blood-vessels, it is chiefly in the venous capillaries, and "under circumstances which show that it must have been formed in these vessels." See Professor Carswell's Illustrations of the Elementary Forms of Disease, fasc. iv. — En.

‡ Morbid Anatomy of the Bowels, &c. p. 24.



constituent elements of the blood.\* It is homogeneous, opaque, and destitute of any particular smell or taste. Thénard ascertained that it contains a very large proportion of carbon. When exposed to the air, it putrefies slowly.

GEN. IV.  
SPEC. I.  
Melanosis  
tubercularis.

## GENUS V.

### STRUMA.

#### SCROFULA.

INDOLENT, GLANDULAR TUMOURS, FREQUENTLY IN THE NECK ; SUPPURATING SLOWLY AND IMPERFECTLY, AND HEALING WITH DIFFICULTY ; UPPER LIP THICKENED ; SKIN SMOOTH ; COUNTENANCE USUALLY FLORID.

THE Greeks denominated this disease XOIPAZ, the nosologists of recent times SCROFULA, thus literally translating the Greek, and importing *swine-evil*, *swine-swellings*, or morbid tumours to which swine are subject. Celsus employs STRUMA, which was common in his own day, and has well described the complaint under this name, which is therefore selected on the present occasion. It is probably derived from στρώμα, "congestion," or "concoction," as of straw in a litter, feathers in a bed, or tumours in a body ; in which last sense Cicero elegantly employs the metaphor in the phrase "struma civitatis," "the scrofula or king's evil of the state." The medical dictionaries and glossaries concur in deriving struma from the Latin *struo*, but the terminating syllable of the noun should rather prove it to issue from a Greek source.

GEN. V.  
Synonyms.

Origin of the  
term struma.

Other animals are subject to this disease besides man. It is, as already observed, from the frequency of its appearance among swine, that the Greek name, as well as the more recent one of scrofula, is derived. Among horses we meet with it at least as often, when it is called farcy ; under which modification it is propagable by transfusion of blood from the diseased horse, not only to other horses, but to asses also, as has been lately proved by Professor Coleman at the Veterinary Institution. Sauvages, who has many species under the generic character, has two for the forms now referred to. The porcine species he denominates scrofula *Chalasis*, and the equine s. *Farcimen*.

Disease found  
in other ani-  
mals than man.  
In horses  
called farcy.

Analysis of  
Sauvages.  
Chalasis and  
Farcimen,  
what.

As it is not the intention of the present work to notice the diseases of other animals, otherwise than by an occasional and inci-

\* Dr. Foy instituted a comparative analysis of medullary, scirrhus, and melanotic substances, and found them to contain albumen, fibrine, and salts, having for their basis soda, potash, and lime ; also oxide of iron, which was in rather greater proportion in the first two diseases than in melanosis ; and, in this latter alone, he detected a highly carbonised principle, probably altered carbon, which constituted nearly a third of the morbid mass. (See Archives Gén. de Méd., Juin, 1828.) The colouring matter of melanosis is generally thought to bear a considerable analogy to the colouring matter of the blood. — En.

GEN. V.  
Struma.

dental glance, we shall proceed to a contemplation of the present genus under the single species of

1. STRUMA VULGARIS.

KING'S EVIL.

Mesenteric  
decline more  
properly apper-  
tains to the  
genus maras-  
mus, where it  
has been given.

The strumous and mesenteric decline, in the present classification *atrophia strumosa*, is often introduced as a second species; but, though nearly allied to the present genus, it has so much closer a connection with all the subdivisions of the genus MARASMUS, and especially with that of *atrophia*, that the former is evidently its proper place, and we have accordingly treated of it under that genus.\*

SPECIES I.

STRUMA VULGARIS.

KING'S EVIL.

TUMOURS CONFINED TO THE EXTERNAL CONGLOBATE GLANDS †;  
PEA-SIZED, OR CHESTNUT-SIZED; APPEARING IN INFANCY OR  
YOUTH; SUBSIDING ON MATURE AGE; HEREDITARY.

GEN. V.  
SPEC. I.  
Disease here-  
ditary.  
Sometimes in-  
generate and  
original.  
Illustrated.

SCROFULA, though not a contagious disease, is unquestionably hereditary ‡, and hence very generally dependent upon a peculiar diathesis. Yet, like many other hereditary diseases, it is also occasionally generated as a primary affection, without any hereditary taint that can be discovered. I had very lately a gentleman under my care, who has been greatly afflicted with it for many years, and is now chiefly labouring under its sequelæ; for the sores, which are in different glands and joints, and some of which have affected the bones, are healing; yet, of eight brothers and sisters who have reached the middle of life, he is the only one who has discovered any tendency to such complaint, nor is it to be traced through any part of the family lineage as far as it can be ascended.

In this case not  
always limited  
to a particular  
temperament.  
Exemplified.

When it occurs as a primary or ingenerated affection, it is by no means always limited to any particular temperament or habit of body. The individual just noticed is of moderate stature, brown complexion, dark brown hair, and ruddy face: and I am still occasionally attending a lady who has long been subject to the same complaint, without any trace of hereditary predisposition, of a

\* Tubercular diseases of the lungs, spleen, and peritoneum, are regarded, by many pathologists of the present day, as scrofulous affections: so are particular diseases of the eyes, bones, and joints, and likewise some chronic abscesses, of which one of the most remarkable examples is the psoas, or lumbar abscess. A tendency to the formation of abscesses in a very slow and sometimes hardly perceptible manner, unpreceded by any very obvious exciting cause, is a common occurrence in scrofulous individuals. We see, then, how imperfect is Dr. Good's definition of scrofula, and how much more comprehensive it might have been made. — Ed.

† The editor is at a loss to understand why the deep-seated lymphatic glands, which are often the seat of scrofulous disease, should be excepted.

‡ Kirkland, On the Present State of Surgery, vol. ii. Kortum, Comment. de Vitio Scrofuloso, Lemgovia, 1789. Baumes, sur le Virus Scrofuloux, &c.

allow countenance, dark eyes and hair, and of rather tall and slender make. But, where scrofula appears hereditary, and especially where it does not show itself very early, it is often accompanied with a peculiar constitution.\* “It most commonly,” says Dr. Cullen, “affects children of soft and flaccid flesh, of fair hair, and blue eyes, smooth skins and rosy cheeks: and such children have frequently a tumid upper lip, with a chop in the middle of it; and this tumour is often considerable and extended to the columna nasi and lower part of the nostrils.” And it is a further remark of Dr. Cullen, but which I have not found to hold very generally, that, where it takes place in children whose parents have given no signs of it, the latter have nevertheless evinced much of the habit and constitution by which the disease is ordinarily characterised.

From all this we have a clear proof that king's evil is a disease of debility, operating by a specific influence on the circulating, and particularly on the lymphatic, system.† “Whether this influence be the result of a specific matter is by no means so clear, however common the opinion. It is also a general belief that this specific matter is, from the first, a specific irritant or acrimony. But this, at least, is a mistake; for the disease is accompanied throughout with diminished, instead of with increased, irritability‡; and hence the power producing it must be of a sedative, rather than of an exciting or acuating quality. And it is in this diminution of irritability that scrofula differs from all other atonic diseases, since the debility and irritability generally augment in like proportion, and maintain an equal march.

Early life is peculiarly characterised by an abundance of albumen, as its maturity is by an abundance of fibrin. Dr. Parr ascribes the scrofulous diathesis to a redundancy of albumen at this period, together with an excess of oxygen, and a deficiency of azote, evidenced by the florid hue of the countenance. By this hypothesis he obtains a sort of lentor in the circulating system, and accounts for the origin of scrofulous tumours by arguing that, since the mobility of the lymphatic system is peculiarly affected and diminished, the viscid fluids will be most disposed to stagnate there, and particularly in the lymphatic glands, as they must necessarily stagnate most where the impelling power is least.§

It is here, indeed, rather than in any other modification of tubers or tubercles that we find most to oppose to the opinion of those physiologists, as M. Broussais and Dr. Alison, who ascribe

\* The numerous disordered conditions of the function of nutrition, evinced in scrofulous persons, are certainly independent of one another: all of them proceed from a cause that is manifested to us by the existence of those modifications of nutrition and secretion, the assemblage of which makes what is termed a scrofulous constitution. See Andral, *Anat. Pathol.*, tom. i. p. 5. 8vo. Paris, 1829. — Ed.

† Garn, *Kranken geschichten*, p. 121.

‡ Richter, *Chir. Bibl.*, band viii. p. 501.

§ The doctrine of Andral is exactly the reverse of this: a morbid state of the lymphatic glands is most frequent at the period of life when the nutrition of these organs is most active. This, says he, affords a confirmation of the general law, in virtue of which the frequency of the diseases of every organ is in a direct ratio to the development of its structure and action. (*Anat. Pathol.*, tom. ii. p. 449. 8vo. Paris, 1829.) Then, what are we to think of the hypothesis of stagnation in the lymphatic glands, when we find, from the experiments of Becker, that, when they are diseased, quicksilver pervades them in the freest manner? — Ed.

GEN. V.

SPEC. I.

Struma vulgaris.

Where hereditary, often accompanied with a peculiar diathesis.

Its character.

Disease of debility operating specifically on the lymphatics; but whether by a specific matter not clear.

If a specific matter, not a specific irritant, as scrofula is marked with decreased irritability.

Parr's hypothesis of the remote cause.

Hence, little support to the doctrine that originates tubercles from inflammation.



GEN. V.

SPEC. I.

Struma  
vulgaris.Yet a more ad-  
vanced living  
action in scro-  
fulous than in  
other tubercles.But retained  
only for a short  
time.

Illustrated.

the origin of all tubercles to the existence of a higher or lower degree of inflammation. Yet it is singular that, at the same time, we here meet with proofs of the most advanced state of a living action in the morbid growths themselves, the most perfect specimens of vascularity and sensation, and particularly where they originate in a glandular texture, which is their proper seat. This living property, however, they do not seem capable of retaining long; for they soon run through their career of vitality, and become decomposed. Such was the short-lived date, according to the first physiological poet of Rome, of those monster-growths which sprang in the infancy of the world, but were soon cut off by Nature, as incongruous with her laws and hateful to her survey.

*Cætera de genere hoc monstra, ac portenta, creabat :  
Nequidquam ; quoniam Natura absterruit auctum ;  
Nec potuere cupitum ætatis tangere florem,  
Nec reperire cibum, nec jungi per Veneris res.\**

These sprang at first, and things alike uncouth :  
Yet vainly ; for abhorrent Nature quick  
Check'd their vile growth ; so life's consummate flower  
Ne'er reach'd they, foods appropriate never cropp'd,  
Nor tasted joys venereal.

Probably  
formed from a  
deposit of albu-  
men.Chemical com-  
mencement and  
progress.Different  
stages.Stages some-  
times co-  
ordinate.

As occurring in early life, when, as we have already observed, there is a peculiar abundance of albumen, with a comparatively less portion of fibrin or coagulable lymph, it is highly probable that a morbid deposition of albumen forms the commencement of the strumous tuber. And such, indeed, seems to be proved by the chemical tests to which Dr. Abercrombie has put them.† It is at first, perhaps, deposited in a soft state, and involved in the structure of the gland, the part being, in other respects, vascular and organised, and probably capable of performing its functions. As the disease advances, the proportion of albumen seems to increase, while, at the same time, it assumes a more concrete and structural figure, and evinces a vascular and sensitive character. "In this first state of enlargement," says Dr. Abercrombie, "these glands present, when cut into, a pale flesh colour, and a uniform, soft, fleshy texture. As the disease advances, the texture becomes firmer, and the colour rather paler. In what may be regarded as the next stage, we observe portions that have lost the flesh colour and have acquired a kind of transparency, and a texture approaching to that of soft cartilage. While these changes are going on, we generally observe, in other specimens, the commencement of the opaque white structure, which seems to be the last step in these morbid changes, and is strictly analogous, in its appearance and properties, to the white tubercle of the lungs.‡ In a mass of considerable size we can some-

\* *Lucret. De Rer. Nat. v. 845.*

† *On the Nature and Origin of Tubercular Diseases. Trans. Medico-Chir. Soc. Edin., vol. i. p. 686.*

‡ In the section on tubercular phthisis, reference has been made to Dr. Carswell's observation, that the same kind of substance as constitutes tubercles in the lungs has been traced in scrofulous lymphatic glands. According to Andral, the latter organs rank as parts of the body in which tubercular matter is most commonly detected. At present this deposit is supposed to take place in the substance of these organs; but Andral conceives it probable that future researches may trace its seat to be within the lymphatic vessels, which communicate together in these organs. In fact, cases have come under his notice, where tubercular matter was found in the thoracic duct, and in several of the absorbent vessels.

times observe all these structures, often in alternate strata: some of the strata being composed of the opaque white matter; others presenting the semi-pellucid appearance; while, in other parts of the same mass, we find portions which retain the fleshy appearance. In the most advanced stage, the opaque, white, or ash-coloured tubercular matter is the most abundant, and this afterwards appears to be gradually softened, until it degenerates into the soft, cheesy matter or ill-conditioned suppuration so familiar to us in affections of this nature." The morbid growth, therefore, as it recedes from its more vascular and vital elaboration, gradually subsides into the simple pretension of coagulated albumen, of which it consisted at first. In the second stage, the part is probably susceptible of active inflammation and healthy suppuration, or suppuration making a near approach to that of a healthy character. In its closing stage, it seems incapable of healthy action, and only passes into that peculiar state of softening, which arises from a simple decomposition of the tubercular organisation.

We have already described at some length the probable origin of tubercles in other textures, chiefly in the serous and mucous membranes of organs, and in the structure of the lungs. The remarks, now offered, will enable us in some degree to judge in what respect the tubercles of proper glands, as those of the lymphatics and the mesentery, are assimilated to these, and in what respects they differ from them. The subject, however, is still open to enquiry, and much remains to be accomplished before a full and satisfactory result is likely to be obtained.

Be the proximate cause of scrofula, however, what it may, as the remote cause is of a debilitating kind, we can readily see what are likely to prove occasional and co-operative causes, or those calculated to call the remote cause into a state of activity. They must consist of every thing that directly lowers and reduces the tone of the living fibre, and puts the system out of that state of firm and vigorous elasticity which is the best prophylactic against the disease, and keeps the scrofulous diathesis most effectually in a state of subjection. And hence we find the common debilitating powers of cold, damp, meagre or unwholesome food, want of cleanliness, and a close and suffocating atmosphere, the most usual incidental sources of strumous affections.\*

But for these, a scrofulous predisposition might remain dormant in the constitution through the whole of life; and descend to and disorder the next generation, without having in the least disturbed the present. But the moment any of these occasional causes become adjuncts with the scrofulous diathesis, scrofula, rather than any other disease they are also calculated to promote, will make its appearance, and commence its ravage. And hence the frequency of this disease in large manufacturing towns, and in higher and colder latitudes than 45°.

GEN. V.  
SPEC. I.  
Struina  
vulgaris.

Hence some  
insight into the  
different na-  
tures of stru-  
mous and other  
tubercles.

Occasional  
causes.

Whatever re-  
duces the tone  
of the system.

(Anat. Pathol., tom. i. p. 451.) This view seems, however, to disagree with the assertion, that mercury will readily pass through the vessels of diseased lymphatic glands. We are yet in want of precise information respecting the state of the absorbent vessels in the glands, when these latter are in various conditions of disease. — Ed.

\* E. A. Lloyd's Treatise on the Nature and Treatment of Scrofula, &c. 8vo. Lond. 1821.

GEN. V.  
SPEC. I.

Struma  
vulgaris.

Heat a cause,  
when excessive  
or variable.

Scrofula com-  
mon to Hin-  
doos, Hotten-  
tots, and  
negroes.

Heat, as a relaxing and debilitating power, tending to produce languid action, is also a frequent cause whenever applied in excess and habitually; and particularly where, like cold, it is combined with sudden variations of temperature. Scrofula is known to be particularly frequent in Hindoos, Hottentots, and negroes, when they come to temperate climates; and especially in the children of settlers in intertropical regions, upon their quitting such regions for countries of a milder temperature.

[The unusual frequency of phthisis among negroes and Hindoos, and even among mulattoes and half-caste people, in this climate, is, as Dr. Alison\* observes, generally admitted. At the same time, he grants, that, as the black population of tropical countries have other peculiarities besides that of being brought up in hot climates, we are not entitled to ascribe their scrofulous tendency exclusively to this circumstance. Yet, says he, when we connect the facts above stated with the enervating influence, produced by long residence in hot climates on European constitutions, so strikingly shown in the different forms assumed by fever and by hepatitis in the old settlers and the newly arrived Europeans; and this, again, with the facts already adduced to show the connection of general debility with scrofula; it seems to Dr. Alison extremely probable, that this part of the constitution of negroes and Hindoos is very much owing to the long-continued application of heat in early life, and particularly to this cause acting on many generations in succession.]

Influence of  
cold more  
powerful,  
rapid, and  
obvious than  
that of heat.

But in certain  
circumstances  
sustained with  
impunity.

Hence less  
scrofula in cold  
mountainous  
regions than  
crowded cities.

Hôpital des  
Enfans  
Malades.

London.

Manchester  
compared with  
the village of  
Waverton:

The influence of excessive cold, however, is much more rapid than that of excessive heat, and far more obvious to the senses. Yet, it is often sustained with impunity where the constitution is firm, and the cold rarely subject to vicissitudes; and especially where there is no other debilitating cause to contend with, as the depressing passions, a sedentary occupation, scanty and innutritive diet, damp and impure air, or any kind of personal neglect or uncleanness. And it is on this account, we meet with a far smaller proportion of scrofula in early life among the peasantry of higher latitudes and mountain scenery, as that of Scotland and Switzerland, than among the mechanics of crowded and warmer cities. "I was told," says Dr. Alison, "by one of the physicians of the Hôpital des Enfants Malades, at Paris, where upwards of five hundred children die annually, whose bodies are almost uniformly opened, that he believed nearly one half of the bodies he saw opened had scrofulous tubercles in some part or other."† This is indeed a higher aggregate than is to be found in the metropolis of our own country, and obviously includes mesenteric or strumous tubers, of which we have treated already, as well as every other modification of scrofula. But the same writer calculates, from data furnished by Dr. Perceval, that the proportion of scrofulous fatal cases among children at Manchester, at the time Dr. Perceval wrote, generalising them as above, could not be less than a third of the whole infantine mortality; whilst at Waverton, a country parish near Chester, it appears, from the same documents, that the deaths from scrofula, in children under five years of age, did

\* Edin. Med. Chir. Trans., vol. i. p. 399.

† On the Pathology of Scrofulous Diseases. Trans. Medico Chir. Soc. Edin., vol. i. p. 383.



not amount to a fourth part of this proportion. In the bordering village of Reyton, the difference appears to have been still greater; for the whole mortality of children under five years of age in this last parish, compared with the same period of parallel mortality at Manchester, was only as two to seven; not more than one seventh part of the children born in this village appearing to die before they had attained their fifth year. "I examined lately," says Dr. Alison, "a register, which I know to have been kept with great accuracy for nearly four years, of the deaths of a country parish in Scotland, that of Rafford, near Forres, the population of which parish is almost exactly a thousand persons. Of forty-two deaths that had occurred in that time, two only, or one in twenty-one, were below the age of two; and three only, or one in fourteen, below that of five years:" while in the town of Manchester, to which we have just referred, Dr. Perceval assures us, on an average of twenty years, that the proportion of deaths under two years to the whole deaths was 1 to 2.9.\*

To add any thing further is unnecessary. Scrofula is manifestly a disease of weak vascular action, and is sure to be found in abundance where other diseases, issuing from the same soil, consociate, to whose fatality it largely adds. Extreme heat and cold, though powerful predisponents, are far more injurious when flowing in irregular vicissitudes, than when in an uniform tenour; and the mischievous effect of the latter is often counteracted, where combined with the tonic powers of a pure and dry atmosphere, a regular plan of diet and exercise, the salubrious exhalations from growing vegetables, and the grateful stimulus of their odours in village scenery.

[And, as Dr. Alison † has judiciously remarked, those who suffer most from the agency of cold, as a cause of disease in general, are by no means those, who are most frequently exposed to it; but those, whose previous condition is such as to favour its operation on the body, and particularly those in whom the circulation, either from the state of the constitution, or accidental circumstances, is feeble and easily depressed. The same well-informed physician elsewhere observes ‡, that what is true of the production of disease in general by exposure to cold, seems to be true of the production of scrofulous diseases in particular; but with these limitations:—1. That scrofulous action appears to be excited almost solely in the earlier periods of life. 2. That, for the production of this kind of diseased action, there appears to be required, besides other conditions, a certain peculiarity of habit, not understood, but, manifestly, in Dr. Alison's opinion, hereditary. 3. That the constitutional debility, which disposes to scrofulous disease from cold, appears to be more permanent and habitual, than that which disposes to other diseases resulting from this cause.]

For the reasons just urged, scrofula has, at times, been called into activity by local injuries, the depressing influence of severe grief, or a sudden reverse of worldly prosperity. It is also sometimes joined with, or follows, rickets; and is frequently a sequel of severe febrile disease, small-pox, yaws, measles, syphilis, scar-

GEN. V.  
SPEC. I.  
Struma  
vulgaris.  
with that of  
Reyton.

Rafford.

Hence scrofula  
a disease of  
weak vascular  
action.  
Heat and cold  
chiefly injurious  
from irregular  
vicissitudes.  
The evil of  
cold counter-  
acted by various  
tonic powers of  
a country life.

\* Perceval's Works, vol. iii. p. 107.

† Edin. Med. Chir. Trans., vol. i. p. 375.

‡ Ibid. p. 380.

GEN. V.  
SPEC. I.

Struma  
vulgaris.

Extends be-  
yond the lym-  
phatic glands;

to the eyes,  
nose, tonsils,  
and other  
organs.

Origin and pro-  
gress of  
scrofula.

Diagnosis and  
advancing  
symptoms.

latina, several obstinate eutaneous affections, and the long use of mercury.

But, though serofula usually commences in the lymphatic glands, it often extends beyond them: as gout, that ordinarily shows itself at first in the small joints, and rheumatism, that begins in the large joints, spread not unfrequently to the membranes and the muscles. I have said, that, under the influence of the serofulous diathesis, the circulating system is weakened generally; and hence also we frequently find the eyes, the mucous glands of the nose, the tonsils, and even the joints and bones, successively yielding to its influence.\*

The disease for the most part shows itself early in life, though rarely before the second†, and commonly not till the third, year of infancy; from which period it continues to prey on the system till the seventh, when, in ordinary cases, it gradually subsides and disappears. If the predisposition be not considerable, the attack is sometimes postponed till after the seventh year, and has occasionally been retarded till the age of puberty, after which, however, we have very seldom any first manifestation of the disease.

The first tumours we meet with are usually upon the sides of the neck, below the ears, or under the chin; and confined to the lymphatic glands in these parts. The tumours are, perhaps, two or three in number, moveable, soft, and slightly elastic, of a globular or oval figure, without pain or discoloration of the skin. In this state, they continue for a year or two; after which they grow larger, and become more fixed, and acquire a purplish redness. They then give that feeling of greater softness, and at length of fluctuation, to which we have just adverted; after which the skin, in one or more of them, becomes paler, and a peculiar liquid is poured forth at several small apertures, apparently like immature pus, but growing daily less purulent, and at length assuming a cheesy or curd-like form.‡ The tumour, or cluster of tumours, then subsides, but others rise in the neighbourhood; and in this manner the disease proceeds, fresh tumours forming, chiefly in the course of the spring, as the older disappear, and the same

\* Sometimes the disease commences in the eyes, joints, spleen, lungs, peritoneum, or other organs, and the lymphatic glands may either escape, or be affected only secondarily. For this and other reasons, the editor regards the definition at the head of the present section, as liable to objections. — Ed.

† When the mother has been serofulous, tubercles in the lungs, and strumous disease of the kidneys, have been sometimes, though rarely, noticed in the fœtus or still-born infant. See Lloyd, *op. cit.* p. 23. — Ed.

‡ According to Mr. Wardrop, "the matter has at first a firm curdy consistence, and, as the process advances, some portions become more fluid; until, ultimately, the suppurative cavity contains a matter partly curdy, partly puriform, and partly serous. When this matter is removed by ulceration of the parietes of the cavity containing it, an irregular-shaped cavity remains in the substance of the gland. Whilst the swelling of the part diminishes, the sides of this cavity become covered with a curdy yellow incrustation, more or less firm, and from its surface a puriform matter is secreted. This incrustation prevents the formation of granulations, and is the cause of serofulous cavities not healing up; while it is by the separation of this crust, in consequence of laying open these abscesses, that granulations form, and heal up the cavity.

"The incrustation covering the internal surface of the serofulous abscess, when of very long standing, acquires a surface which resembles a mucous membrane, from which the puriform fluid is secreted." Baillie's Works, by Wardrop, vol. ii. Preliminary Obs., p. 33.

process is continued for several years : after which the ulcers heal spontaneously, with puckered and indelible indentations, provided the disease terminates favourably ; but if not, other parts of the system, as we have already observed, become tainted with the morbid influence, and add to the sum of distress. If the attack fall upon the eyelids, they become inflamed, are swollen and red, and pour forth, from their minute glands, an erosive but viscid secretion, which glues them together at night, so that in the morning they are opened with difficulty. — The adnata partakes of the irritation which is at length communicated to the whole globe of the eye, and not unfrequently to the cheek, from the acrid discharge that flows down. An unsightly lippitude, and eversion of the lower eyelid, are hence a very common result of a scrofulous attack on this organ.

In like manner, the disease, in this unfavourable and aggravated state, often makes its assault on the limbs, and fixes on the ligaments, cartilages, or even the bones themselves ; and particularly whenever any injury occurs to a joint. An indolent tumour first shows itself, which tardily advances in magnitude with a kind of smothered inflammation, and at length opens on the surface from one or more minute ulcerations, which discharge the sanious kind of fluid we have already noticed. And it is here we perceive how nearly scrofula is related to hydarthrus or white-swelling ; and how readily the former may become a cause of the latter, as already observed under that species. If the strumous diathesis be excited by the fracture of a bone, the broken ends unite with great difficulty, and sometimes not at all. A specific tumour forms in the seat of the injury, the soft parts are often affected with a weak inflammation, and ulcerate slowly, and the bone is rendered carious. If the injury occur in the middle of a cylindrical bone, an exfoliation may take place in a long course of time ; but if at its extremity, it will become spongy, enlarged, and disorganised. If a cure be at length effected, the enlargement will remain and the articulation be lost ; yet amputation will be of no use while the part continues under the influence of the scrofulous taint.\*

[The susceptibility of scrofula, inherent in different parts, is said to be altered by age : “ Thus, in children, the upper lip, eyes, glands of the neck, and those of the mesentery, are generally the parts first affected ; the lungs, bones, and other parts being subsequently attacked.†]

In the worst and severest stage of the disease, the entire system appears to be contaminated ; hectic fever ensues, and sometimes tubercular phthisis, which gradually puts an end to the contest.

[The urine of scrofulous subjects is said to contain less phosphoric acid than the urine of healthy persons, and an increased quantity of phosphate of lime. This earth is also sometimes found after death in the lymphatic glands, in the thoracic duct, and in the substance of the viscera.‡]

GEN. V.  
SPEC. I.  
*Siruma*  
*vulgaris.*

Fixes some-  
times on the  
limbs, liga-  
ments, and  
bones.

Nearly related  
to white-  
swelling.

Sometimes the  
entire system  
contaminated.

\* This is not quite correct, as no stumps generally heal more favourably than those resulting from the amputation of scrofulous joints. — Ed.

† E. A. Lloyd on the Nature, &c. of Scrofula, p. 5. 8vo. Lond. 1821.

‡ Pinel, Nosographie Philosophique. We know from the researches of Dr. Carswell, that tubercular matter, the same kind of unorganised deposit as is



GEN. V.

SPEC. I.

Struma  
vulgaris.Principle to be  
attended to in  
attempting a  
cure.Modified tonic  
and stimulant  
plan.Sedatives and  
narcotics why  
employed.Alkalies why  
employed.Often of use,  
though not as  
correctors of  
acidity, but as  
stimulants.Carbonate of  
soda.Subcarbonate  
of ammonia.

Iodine.

Exemplified.

In attending to the cure, we must not be unmindful of the principle we have endeavoured to establish, that scrofula is a disease of debility, principally affecting the lymphatic system, accompanied with diminished irritability.\* And it hence follows, that our chief dependence must be upon a tonic and stimulant plan, so modified as to meet the patient's age, idiosyncrasy, and manner of life.

An old hypothesis is, that scrofula depends upon an acrimony in the system, and hence sedatives and narcotics have found a place among the most celebrated of its remedies; while, as the chemical character of the acrimony has been also pretended to be developed, and has been declared to be a specific acid, another class of remedies had recourse to has been the alkalies.

That the latter are often of considerable service, ought, I think, freely to be admitted; but we have assuredly no proof that they become beneficial as correctors of acidity. They are gentle stimulants, admirably adapted to the debilitated and indolent condition of the vascular system they are intended to excite; and hence, in whatever form they are given, have a chance of doing good. And it is to this principle we are, perhaps, to resolve all the advantage that has been stated by different writers, and in different ages of the world, to have resulted from the use of burnt sponge, burnt cuttle-fish, shells of all kinds, burnt hartshorn, and even burnt secundines, which last were at one time in high request, and are to be found as a sovereign remedy in Schroeder's *Pharmacopœia*.† All these have in our own day deservedly yielded to the carbonate of soda and subcarbonate of ammonia; which, in a more elegant and concentrated form, offer whatever virtues may be contained in the older medicines: and still more lately to iodine, not long ago detected by M. Courtois in kelp and other saltworts; for a more particular account of which medicine the reader may turn to the treatment of BRONCHOCELE.‡ The author has, at this moment of writing, among other patients, who have been benefited by

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found in tubercles of the lungs, is also sometimes detected in scrofulous glands; and, as these are sometimes cured, the fact has been adduced as an argument in favour of tubercular phthisis not being absolutely incurable. See Dr. Carswell's *Illustrations of the Elementary Forms of Disease*. — Ed.

\* How contrary this theory is to that entertained by some other writers, may be seen by a reference to Crowther's work on White-swelling, &c. ed. 1808. A still later author remarks:—"In scrofulous disease there is generally what is termed a delicate state of the health, great nervous irritation, greater susceptibility than natural; so that certain external agents, as cold, &c. applied to the body, produce unusual effects; and there is always more or less disorder of the digestive organs; and, upon accurate investigation, this state of the system will always be found to have existed for some time previous to the appearance of the disease in any particular part." (Lloyd, on Scrofula, p. 32.) The editor believes that we know nothing about the proximate cause of scrofula; and that the digestive organs cannot be essentially concerned in the production of the disease, is as clear as the fact pointed out by Mr. Lloyd, that scrofula sometimes affects the fetus in utero. The disorder of these organs, in many examples, is certainly only an effect; yet it is not here intended to deny the possibility of the origin of scrofula being promoted by derangement of the functions of the digestive organs. But that something else is requisite, appears certain, as these organs are frequently disordered, without a single symptom of scrofula showing itself. — Ed.

† Lib. v. p. 288.

‡ Vol. iii. Cl. vi. Ord. i. Gen. ii. Spec. i. Emphyina Sarcoma Bronchocele.

this plan, a lad about thirteen years of age, with weak eyes, inflamed and irritable conjunctiva, and such an enlargement of the parotid glands\* as to make them nearly meet, so that the mouth opens with uneasiness. He has now applied the ointment of iodine for three weeks, and at the same time taken half a grain twice a day in the form of a pill, and is essentially improved in every respect. [Iodine may be said to be the medicine to which the generality of medical practitioners are turning their attention, as a means of curing various forms of scrofulous disease. Its extraordinary power in dispersing many strumous swellings cannot be doubted; but whether it possess any specific power for the correction of the scrofulous diathesis, still remains to be proved.†]

GEN. V.  
SPEC. I.  
Struma  
vulgaris.

Lime-water and the muriate of barytes, which last was thought by Dr. Adair Crawford to be nearly a specific, if they have any pretensions whatever, can only derive them from the general principle of their being stimulants, and especially of the lymphatic system. And the same may be observed of petroselinum, sarsa, mezereon, balsam of sulphur, and calamus aromaticus.

Lime-water.  
Muriate of  
barytes.  
Other lymphatic  
stimulants.

Muriate of soda, or common sea-salt, possesses a like character, and has undoubtedly been found of far more use in many cases. It has, hence, been employed very freely both internally and externally. In the latter case generally through the medium of the bibulous marine plants, which contain it in a larger proportion, and have been applied to the strumous tumours in the form of epithems, as sea-wrack (*fucus vesiculosus*), sea-tang (*alga marina*), and sea-oak (*quercus marina*).

Muriate of  
soda.  
Bibulous marine  
plants as  
external stimulants.

The mineral waters of every description have in like manner been had recourse to, chalybeate, sulphureous, and saline; and perhaps, as Dr. Cullen observes, with nearly a like reputation and success; though it is by no means improbable that some waters may prove a more remedial stimulant or alterant to some constitutions, and others to others. And we thus possess a more plausible reason for their being advantageous, than that offered by Dr. Cullen; namely, that, "if they are ever successful, it is the elementary water that is the chief part of the remedy ‡;" which, he tells us in another place, "may be of use by washing out the lymphatic system."

Mineral waters.  
  
Supposed useful  
by Cullen  
from their  
waters alone.

Stimulant external applications, besides sea-water, have also been tried, and undoubtedly been often found serviceable; as a

Other external  
stimulants.

\* The editor believes, that this case must have been either a bronchocele, or a general enlargement of the lymphatic glands on each side of the neck and behind the jaw; for, besides the fact that the parotid gland is seldom or never the seat of scrofula, the extension of the disease under the chin seems to prove, that the disease could not have consisted in the parotid. — Ed.

† The strongest facts on record, proving the usefulness of iodine in scrofulous diseases, are those published by Dr. Lugol (Mém. sur l'Emploi de l'Iode dans les Maladies Scrofulieuses. 8vo. Paris, 1829), who employs this medicine, however, in a greater variety of ways and forms than we have taken the trouble to do in this country. Instead of the tincture, he prescribes an aqueous solution of iodine of different strengths, with a proportion of the hydriodate of potash in them. He also applies iodine in the form of baths, lotions, and collyria; sometimes also as a stimulating or rubefacient application; and, in particular cases, as an escharotic. Whoever wishes to give iodine a fair trial in scrofula, should prescribe it in Lugol's manner, whose formulæ may be seen in his work. — Ed.

‡ Pract. of Phys., vol. iv. mucell.

## GEN. V.

## SPEC. I.

Struma  
vulgaris.Mercurial.  
Electricity.Excitement at  
first should be  
gentle.

long-continued friction of the hand over the scrofulous protuberances, mercurial or ammoniacal plasters, or the convenient form in the London Pharmacopœia that combines both these ingredients; irritant ointments, especially those containing iodine, the aura of voltaism, or moderate shocks of electricity.

The means of this kind, however, to which we have recourse, whether external or internal, should always be gentle at first, however we may venture upon augmenting them afterwards. If we stimulate violently, we shall do mischief rather than good, and add to the debility instead of diminishing it. Scrofula is a strictly chronic disease; it never has been, and never can be cured rapidly; and wherever any beneficial influence has been produced upon it, it has always been, as in the use of the alkalies, and of mineral waters, by lenient means and patient perseverance.

Different kinds  
of tonics.

But we have to increase the power as well as to take off the irritability; and hence tonics seem to be as much demanded as stimulants, and have in fact been as generally made use of.

Coltsfoot  
mostly depend-  
ed on by Cul-  
len.

It is very singular, that, of this class of medicines, the only two, which Dr. Cullen has thought it worth while to notice, are bark and coltsfoot: of the first of these, he speaks very doubtfully; while he seems to depend more on the second, than on any other remedy whatever. This opinion he expresses in his *Practice of Physic*, published in 1783; but in his *Materia Medica*, published six years afterwards, he gives it the same high character, and tells us, that he was induced to try it in scrofulous cases upon the testimony and recommendation of Fuller. He employed both an expressed juice of the fresh leaves, and a decoction of the dry; but preferred the former, of which he gave "some ounces every day," and affirms that "in several instances it has occasioned the healing up of scrofulous sores." He admits, however, that neither of them was, in some trials, sufficiently effectual.

Metallic salts.

The metallic salts have been more generally used, and have at least acquired a higher reputation; though, with the exception of calomel, I do not know any of them that can appeal to any decided testimonies in proof of their success; and even calomel may perhaps be regarded rather as an alterant or mild stimulant, than as a tonic. Salivation has always done harm; and, on this account, mercury in every form must be given in minute doses. Combined with some preparations of antimony, and particularly with the precipitated sulphuret, as in Plummer's pills, it is said to have been chiefly serviceable. But, in my own practice, I have not found this medicine of any manifest service in the present disease.

Calomel.

Salivation in-  
jurious.Plummer's  
pill.

Acids.

The acids have also been tried, but are of little or no avail.

Tonic medi-  
cines hitherto  
tried, not  
highly useful.  
Tonic regimen  
more service-  
able.

Upon the whole, however, the tonic class of medicines has thus far proved considerably less decisive and important, in the treatment of scrofula, than we might fairly have conjectured. Yet a tonic regimen of sea-air, sea-bathing, liberal exercise, and a diet somewhat generous, is of the highest consequence in promoting improvement, and ought by no means to be dispensed with. The infirmary at Margate is on this account a noble institution, and cannot be too liberally supported.

Narcotics,

Of the specific benefit of narcotics, as hemlock, henbane, fox-glove, solanum, asclepias, vincetoxieum, and many others, I have yet to be persuaded. They may possibly be of some use in quiet-



ing the irritation occasionally produced by congestion and mechanical pressure where the tumours are peculiarly indurated and large, and in such cases may assist in softening and diminishing them. And they may perhaps operate in the same way where, in the later and more malignant stages of the disease, the secretion is become virulent, the open ulcers irritable, and a foundation is hereby laid for hectic fever. But I can conscientiously say, with Dr. Cullen, that they have often disappointed me, and have not seemed to dispose scrofulous ulcers to heal.

The local applications, like the internal remedies, should be slightly stimulant; and, where the tumours have broken, usually consist of digestive ointments combined with the caustic metallic salts of mercury, zinc, or copper, and of digestive lotions of a dilute solution of alum or nitrate of silver. These are well calculated to coincide with the general intention; but we must not expect a sound cure till the morbid impression is set at rest in the constitution, or utterly extirpated from it.

[Those who espouse the hypothesis, that in scrofula there always is more or less disorder of the functions of the digestive organs, and primarily of no other important function, of course renounce all faith in specifics, and consider the principal indication to be that of improving the state of those functions by attention to diet, and by keeping the bowels regular and the hepatic secretions natural. The editor believes that more good may be effected in scrofulous cases by endeavouring to rectify any obvious defect in the constitution, or, in other words, to improve the health in general, than by trying the effect of various medicines, supposed to have a specific power over the disease. On this very principle, however, iodine, carbonate of soda, blended with rhubarb, or columba powder, and other alteratives and tonics, will frequently be proper, as well as small doses of the blue pill, the compound calomel pill, and the compound decoction of sarsaparilla; with occasional mild purgatives, so much confided in by those practitioners who believe the cause of scrofula to be essentially connected with disorder of the digestive organs.]

GEN. V.

SPEC. I.

Struma  
vulgaris.  
may at times do  
good:

but often  
disappoint.

Local applica-  
tions where the  
tumours have  
broken.

## GENUS VI.

## CARCINUS.

## [CANCER.\*]

SCIRRHOUS, LIVID TUMOUR, INTERSECTED WITH FIRM, WHITISH, DIVERGENT BANDS, FOUND CHIEFLY IN THE SECERNENT GLANDS; PAINS ACUTE AND LANCINATING; OFTEN PROPAGATED TO OTHER PARTS; TERMINATING IN A FETID AND ICHOROUS ULCER.

GEN. VI.  
Only one  
known species.

OF this genus there is but one known species: for the division into occult and open, or indolent and ulcerative, introduced by Hippocrates, and continued till the time of Boerhaave, is unnecessary in pathology, and incorrect in a nosological arrangement; as the distinctions it contemplates are nothing more than so many stages or modifications of the same disease in different habits, or affected by different concomitants. This species is what is generally described under the name of

## 1. CARCINUS VULGARIS.

## COMMON CANCER:

and it is not necessary to alter the term.

\* One of the heterologous formations, as they are termed by Professor Carswell, in his *Illustrations of the Elementary Forms of Disease*. The essential character of the heterologous formations, he founds on the presence of a substance which does not enter into the original composition of the body. When the heterologous deposit is collected at numerous points, in the shape of a hard, grey, semitransparent substance, intersected by a dull white, or pale straw-coloured, fibrous, or condensed cellular tissue, the disease is usually termed *scirrhus*. When it assumes a regular lobulated arrangement, so as to present an appearance similar to a section of the pancreas, it constitutes the *pancreatic sarcoma* of Abernethy. For other varieties, named by the French *tumeur lardacée*, *matière colloïde*, and *cancer gélatiforme*, or *aréolaire*, consult Dr. Carswell's work. In order to trace the precise seat, origin, and mode of formation of cancer, it is necessary, as this excellent pathologist observes, "to catch the disease, as it were, at the earliest period of its formation; that is to say, when the heterologous substance, of which it consists, has just been deposited, and has not effaced the particular texture or structure of the part in which it is contained. Investigated in this its first stage, we ascertain, with greater or less facility, that this substance becomes manifest to our senses, either as a production of nutrition, or secretion. In the former case, it is deposited in the same manner as the nutritive element of the blood enters into the molecular structure, and assumes the form and arrangement of the tissue or organ into which it is thus introduced. In the latter, it makes its appearance on a free surface, after the manner of natural secretions, as on serous surfaces in general. Proceeding still further in our researches, we find this substance existing not only in the molecular structure, and on the free surface of organs, but also in the blood of the venous and capillary divisions of the vascular system." Professor Carswell, *op. cit.* — Ed.

SPECIES I.  
CARCINUS VULGARIS.  
COMMON CANCER.

TUMOUR BURNING, KNOTTY ; WITH DARK, CANCRIFORM VARICES ;  
ULCER, WITH THICK, LIVID, RETORTED LIPS.

THERE is a soft, fungous, and bleeding ulcer, possessing the name of fungus hæmatodes, which has by many writers of celebrity been supposed to be of a cancerous origin ; and, under their authority, it has been so regarded in the author's volume on Nosology : but as it seems to differ from cancer in its constitutional influence and in some of its local characters\*, it is better to contemplate it as a malignant ULCER of a peculiar kind ; and in the present work it is referred to that genus accordingly. †

The term *carcinus* (*καρκίνος*) is Greek, and imports a crab ; the disease being thus called, from the cancriform or crab-like ramifications of the dark distended veins of the cancerous tumour. The question is of some consequence, whether cancer be a constitutional or a local, whether an hereditary or merely an occasional, disease. Much has been said, and well said, on both sides. Till of late years, the disease was generally regarded as a constitutional affection, and will, for the most part, therefore, be found in the division of cachexies from Sauvages to Macbride, though Dr. Cullen has introduced it into his class *locales* ; and since his time, many of the best writers of the present day, among whom are Dr. Baillie and Mr. Abernethy, concur in regarding it as local alone. If the disease be merely local, it is difficult, and perhaps insuperably difficult, to say why a blow on a conglomerate gland, as the breast, for example, should sometimes produce a cancer, but more generally not ; or what that power is that excites the cancerous action in one person, from which another, or perhaps a hundred others, remain free upon an application of the very same injury to the same organ.

\* One fact, mentioned by Dr. Carswell, is exceedingly curious and important, in relation to these malignant diseases : — “ Numerous examples,” says he, “ might be given of scirrhus, medullary sarcoma, and fungus hæmatodes, originating in the same morbid state, and passing successively from the one into the other, in the order in which I have named them. Indeed we often meet with all the varieties which I have enumerated of both species, not only in different organs of the same individual, but even in a single organ.” (See Illustrations of the Elementary Forms of Disease, 4to, fasc. ii. Lond. 1833.) One evening, at the London University, Sir Astley Cooper lately mentioned to Dr. Carswell and the editor, that he knew of a case in which a lady, whose breast had been removed, and was found to have the true scirrhus texture, afterwards died of fungus hæmatodes in the same situation. — Ed.

† The fungus hæmatodes of Hey, is the *medullary sarcoma* of Abernethy, the *rusture cérébriforme*, or *encéphaloïde* of Laennec, the *spongoid inflammation* of John Burns, and the *soft cancer* of several other writers. As it is not till an advanced stage of the disease that any fungus or ulceration occurs, medullary sarcoma is one of the best of these terms. Fungus hæmatodes is, at all events, totally inapplicable, until the morbid mass projects through the skin and bleeds ; and even then it is not truly a fungus, but a soft medullary substance. — Ed.

GEN. VI.  
SPEC. I.

Fungus hæmatodes ; sometimes called a cancer, but not strictly so.

Origin of the generic term.  
Cancer whether constitutional or hereditary, or merely local.

Formerly generally regarded in the first view : more lately in the second.

Difficulty attending the second view when applied universally, and leading to the idea of a constitutional affection.



GEN. VI.  
SPEC. I.  
Carcinus  
vulgaris.

Other argu-  
ments in favour  
of a constitu-  
tional affection.

A blow on the knee often produces a white-swelling, but ten thousand children receive blows on the knee without any such effect following. In this case we resolve the difference of result, without a controversy, into the presence or absence of a serofulous constitution; and, without this view of the subject, we should find ourselves at a loss for an answer. And unless we apply the same reasoning to cancer, we shall ever, I fear, remain at an equal loss. The cases, moreover, in which cancerous tumours are found in other parts of the body, after one or more than one has been extirpated, lead us by an easy thread to the same conclusion, provided the tumour has been removed in an early stage of the disease, and before ulceration has taken place; for it is possible that the specific matter of a cancer, generated and matured locally, may be absorbed and deposited on the organs which are afterwards affected. \* But if the extirpation have taken place before the formation of the specific matter, it is not easy, except by a constitutional diathesis, to account for any subsequent appearances. †

It is still stronger in proof of an hereditary predisposition, that various members of the same family have exhibited the same disease, either simultaneously or in succession; and that the descendants of those who have been afflicted with it, seem to have more frequently suffered from it than others. It is not necessary to advance individual instances in support of these positions, though it may be noticed, in passing, that Buonaparte died of a cancer in the stomach, his father of a scirrhus pylorus. ‡ The same remarks have been made upon a general survey of the disease in most ages; and the doctrine of an hereditary influence, in consequence, descended to us as a result of such remarks from the time of the Greeks and Romans.

Since the first and second editions of the present work, in which these remarks occur, as now again presented to the reader, they have received no inconsiderable degree of confirmation by the publication of Sir Astley Cooper's Lectures on Surgery, in which the same line of pathology is pretty closely adopted. With respect to the constitutional character of the disease, he tells us, from numerous dissections, that "it seldom happens, when a tumour of this kind exists in the breast, that only one is found, for there are generally several smaller, in different parts of the glandular structure," and that not only the glands in the axilla, but those above the clavicle are changed in their internal appearance from the

\* The impossibility of communicating cancer from one person to another by inoculation with the matter of cancerous ulcers, is a strong fact in opposition to this last hypothesis. The existence of a specific cancerous matter, or virus, is denied by M. Roux, as the editor conceives, upon very sufficient grounds.—Ed.

† Dr. Carswell joins our author in considering cancer as a constitutional disease: — "It may," says he, "be regarded as a law, that the speciality of a morbid product, of the nature of those I am now treating of (carcinoma, &c.) is entirely independent of any local agency whatsoever. The trite, but important remark, that hundreds and thousands of individuals are daily affected, for example, with inflammation, without this local disease being followed by any other than its usual effects, places in the clearest light the necessity of a *previously existing modification of the economy, as the immediate and essential condition of the speciality of the heterologous formations, when they occur in conjunction with inflammation.*" See Illustrations of the Elementary Forms of Disease, fasc. ii. — Ed.

‡ Account of the last illness, decease, &c. of Napoleon Buonaparte. By Archibald Arnot, 1822.

deposit of a scirrhus secretion resembling that in the breast, and that most of the viscera, in different cases, participate in the same morbid change, especially the lungs, the liver, the uterus, the ovaria; whilst in proof of its hereditary influence, he observes as follows:—"There are sometimes several persons in the same family, who will be affected with this disease. A physician had three relations, sisters; the first of whom had a scirrhus tubercle of the breast, of which she died. A second had the disease, which was removed by Mr. Lucas senior; the disease returned, and she died. The third had applied to me, for a very painful swelling in the breast. They were unmarried. Therefore," continues he, "in a family in which one is affected, the first dawn of complaint should be carefully watched, and the general health be well attended to in others."<sup>4</sup>

How far a predisposition to cancer, whether original or derived, may manifest itself by external signs, I am not able to determine. Such an outward character is by no means constant in the list of hereditary diseases. It is, perhaps, generally visible in those that affect the mind, but far less so in those that affect the body. In phthisis, the predominant diathesis has a striking exterior; in scrofula, the outward and visible sign is far less distinct, though such a sign seems to prevail generally: in gout, there is no specific exterior that we can depend upon. Dr. Parr, however, has conceived that cancer has its outward character as well as phthisis, and that it is indelibly marked in the complexion: "for we have found," says he, "cancers more frequent in the dark cadaverous complexions, than in the fairer kind. The complexion we mean is distinct from the darkness of the atrabilious or melancholic habits: a blue tint seems mixed with the brown, and is chiefly conspicuous under the eyes, or in the parts usually fair. This may, perhaps, be a refinement without foundation, but we think we have often observed it. There is certainly no constitutional symptom by which it can be predicted, it, in women, a scanty and a dark-coloured catamenial discharge be not a prognostic of the future disease. Cancer has certainly been traced in females of the same family; and those who have escaped suffer from irregular anomalous pains, and different, often unaccountable complaints."<sup>†</sup> The picture, thus ingeniously drawn, is worth bearing in mind, but I have never been able sufficiently to appropriate it; and, in the last two or three cases of cancerous breasts that have occurred to myself, the patients have been of fair complexion, and light hair; one of them, indeed, peculiarly so: the lady was about fifty, and had a large and very handsome family, all of whom were so fair as to make a near approach to the phthisical exterior, though none of them have ever exhibited its pathognomonics.

Cancer has also been imagined by many practitioners of high respectability to be contagious, of whom we may mention Bierchen, Sinnert, and Gooch; but there seems no sufficient ground for the continuance of such an opinion. Inoculation has been said to have produced the complaint: but this is contrary to the results of later investigations; for M. Alibert inoculated both himself and several of his pupils, without any other effect than that of local

GEN. VI.  
SPEC. I.  
Carcinus  
vulgaris.

Whether a constitutional diathesis be manifested by the features.

Such manifestation not to be found in all hereditary predispositions: but suspected by Parr in cancer.

His outlines of it.

Does not hold uniformly.

Cancer whether contagious.

No sufficient ground for such a belief.

<sup>4</sup> Tyrrel's edition, vol. ii. pp. 183, 186, 189. 8vo. 1825.

<sup>†</sup> Med. Diet. in verbo.

GEN. VI.  
SPEC. I.  
Carcinus  
vulgaris.  
Parts of the  
body most  
usually affected.  
Lymphatics  
not readily  
affected.

Women more  
subject than  
men.

When men are  
attacked, the  
lips chiefly  
suffer: when  
children, the  
eyes.

Remote causes  
unknown.

By some, a  
peculiar acid  
supposed: by  
others, a pecu-  
liar alkali.

Crawford's  
hypothesis.

Parr's  
hypothesis.

Ascribed to  
vermicles or  
arvæ,

inflammation, and even this did not always ensue. \* The discharge from cancers has been swallowed by dogs without any mischief.

The parts most usually affected by cancer are the excretory glands, and especially those that separate the fluids to be employed in the animal economy, rather than those that seern the excrementitious part of the blood. The lymphatic glands are seldom primarily affected, though they may become so secondarily, that is to say, in consequence of the effect of a neighbouring cancerous tumour or ulcer upon them; but whether this is on the principle of irritation or absorption is not quite clear. "I never yet," says Mr. Pearson, "met with an unequivocal proof of a primary (cancerous) scirrhus in an absorbent gland." † And hence we behold a striking difference between the nature of cancer and serofula. But, though the seernent glands are most open to the attack of cancer, any part of the body may become its seat. We meet with it, however, chiefly in the breasts of females, the uterus, the testes, the glans penis, the tongue, stomach, cheeks, lips, and angles of the eyes. The diseased action commences in the minuter vessels, and the adjacent parts are affected in consequence.

Women are more subject to cancer than men, and in these the mammæ and the uterus are the organs most predisposed to its influence. Celibacy, as well as the cessation of the menses, conduces to its production or appearance, and hence antiquated maids are mostly affected with it, and, next to these, mothers who have not suckled their children; for we may lay it down as an axiom, in the language of Dr. Parr, that a milk abscess never becomes a cancer. Then follow women who are past child-bearing, and, lastly, women who have borne children, and suckled them with their own milk, and males incidentally exposed to its occasional causes. To which we may add that, when cancer occurs in men, it is chiefly in the lips, and, when in children, in the eyes. ‡

Of the remote cause of cancer we know nothing. While serofula has been supposed by some to be the result of an acid acrimony, cancer has by others been supposed to be produced by a peculiar alkali. Dr. Crawford, from a series of very curious experiments upon the matter of cancer, thought he had ascertained this to consist principally of hepatised ammonia, and found that this matter effervesced with sulphuric acid. § Plouquet, however, affirms that it sometimes effervesces with alkalies as well. || The taste discovers nothing; for to the tongue it is insipid and mawkish rather than acid or alkaline. Yet Parr, laying hold of Crawford's experiments, has boldly ventured to assert that the remote cause, or rather the cause of the cancerous diathesis, consists in an excess of ammonia, with a redundant development of sulphur.

When it was popular in the Linnæan school to resolve almost

\* *Maladies de la Peau*, &c.

† *Principles of Surgery*, &c. vol. i. p. 209, &c.

‡ The cases which used a few years ago to be set down as cancers of the eyes of children, are now well ascertained to be in reality examples of fungus hæmatodes. — *Ed.*

§ *Phil. Trans.*, vol. lxxx. 1791.

|| *Init. Biblioth.*, tom. ii. p. 202.



all diseases into the irritation of worms, grubs, or insects existing parasitically in different organs of the body, cancer was by some theorists supposed to depend upon a like cause; and the hypothesis has been since adopted by several writers in our own country, as Mr. Justamond, who ascribed it to the larvæ of a particular species of insects, and Dr. Adams, who referred it to hydatids.\* Vermicles, or the larvæ of insects, have at times been found in the open ulcer of a cancer, as in the fetid discharge of many other malignant ulcers. These, as in other cases, have undoubtedly proceeded from eggs deposited in the sore as a nidus, though the worm or insect that has so deposited them has never been detected. Such appears to be the foundation of this hypothesis, which we have no authority for carrying further, and which is rarely advocated in the present day.†

The occasional or exciting causes are numerous, but to account for their efficiency, it seems indispensable, as we have already observed, to suppose the existence of a cancerous predisposition or diathesis, since we see the same causes acting in innumerable instances daily without betraying any tendency to such a result. Where this is present, it may be produced by an external injury upon any of the parts most susceptible of cancer; by an indurated and chronic tumour incidentally inflamed or irritated; an accumulation of acrid filth in the rugæ of the skin, which is a frequent cause of cancer in the testes, and particularly among chimney-sweepers; the hard and pungent pressure of a wart or corn in an irritable habit, of which the medical records offer various examples; the general disturbance produced in the system by a severe attack of small-pox, or several other exanthems; a sudden suspension of a periodical hemorrhoidal flux, and a cessation of the menses; and, when in the stomach, by a previous life of ebriety or irregular living. With these severe cold seems also to co-operate, as the disease is generally admitted to be both more frequent and more virulent in the high northern latitudes than in the southern regions of Europe.

When cancer takes place in the breast, it usually commences with a small indolent tumour that excites little attention. In process of time, this tumour is attended with an itching, which is gradually exchanged for a pricking, a shooting, and at length a lancinating, pain, a sense of burning, and a livid discoloration of the

GEN. VI.  
SPEC. I.

Carcinus  
vulgaris.  
by Justamond  
and Adams.

Occasional  
causes numer-  
ous, where a  
predisposition  
exists.

Cancer of the  
breast.

Progress and  
general descrip-  
tion.

\* Observations on Morbid Poisons.

† The great attention now paid to morbid anatomy has dispelled for ever these sports of the imagination. In cancer there is a deposit of what is termed heterologous matter, quite different from any of the normal tissues. The carcinomatous substance may exist in the molecular structure of organs or on free surfaces, and in the blood, and it always forms by far the greater bulk of the disease. When the carcinomatous matter is deposited on free surfaces, the fibrous tissue is not often met with as an anatomical element of the disease; but the serous tissue is frequently present, and may form either a capsule or interior cysts, filled with gelatinous, albuminous, or other fluids. However, in the molecular structure, the quantity of cellular and fibrous tissues, which intersect a scirrhus in various directions, may be very considerable. In dense organs, like the breast, uterus, ovaries, liver, walls of the stomach, &c. these tissues are often very abundant. (See Dr. Carswell's Illustrations of the Elementary Forms of Disease, fasc. iii.) According to this author's investigation, the blood vessels seen in scirrhus are only branches belonging to the neighbouring tissues, and which have become enclosed within the morbid substance. — Ed.

GEN. VI.  
SPEC. I.  
Carcinus  
vulgaris.

skin. And, however difficult it may be to determine the precise point of time in which the scirrhus first becomes converted into a cancer, where these symptoms are united there can be no risk in calling the tumour by the latter name. Adhesive bands are now formed in the integuments, which become puckered, while the nipple is drawn inwards by suction, and, in some instances, completely disappears: the tumour rises higher towards the surface, and feels knotty to the finger, at the same time that the subcutaneous vessels are distended with blood, and show themselves in dark, caneriform varices. The march of the disease may be slow or rapid, for it varies considerably in its pace; but at length the integuments give way in a few points to the ulcerative process, and a small quantity of caustic ichor, or of lymphatic fluid tinged with blood from the eroded vessels, is thrown forth, sometimes with a short and deceitful relief\*: the ulcerative process in the meantime advancing and spreading more widely and deeply, till a considerable extent of surface becomes exposed, and a broad excavation is scooped out, with a discharge of a peculiar and most offensive fetor.† Here again the ulcer sometimes affords a delusive hope of recovery by its granulating; but the granulations are soft and spongy, and not unfrequently bleed, from the loose texture of the new vessels, or their erosion by the cancerous matter. It is rarely, moreover, that they extend over the entire surface of the sore; for, more generally, while one part is covered with them, another part is sloughing, and each of the parts runs alternately into the action of the other.‡ And, not unfrequently, the lymphatic vessels become affected as high up as the axilla, and in their course betray a few smaller tumours. But whether this be a mere result of contiguous sympathy or of cancerous taint is uncertain. Cancer, as we have already observed, rarely, if ever, commences in lymphatic glands, but they, at length, partake of the diseases in the course of its ravages: and hence all such suspected tumours are prudently removed when the knife has been resolved upon. Where the disease has spread widely or continued long, some of the muscles of respiration participate in the irritation, and the breathing is performed with difficulty.§

Cancer of the  
womb.

When cancer attacks the uterus, it is known by tensive lancinat-

\* Prysschriften Uitgegeven door het Genootsch. ter bevordering der Heelkunde. Amsterdam, 1791.

† C. Bell on the varieties of Diseases comprehended under the name of Carcinoma Mammarie. See Medico-Chir. Trans., vol. xii.

‡ Both in cancer and fungus hæmatodes sloughing is a common occurrence, and arises from various causes, such as the pressure of the morbid substance on the veins, the irritation of it on the neighbouring tissues, or even the constriction of a portion of the disease by a narrow opening in a fascia, through which it protrudes. "Congestion, hemorrhage, softening, and sloughing," as Dr. Carswell observes, "take place in both species of carcinoma. In scirrhus, however, they originate in the vascular system of the tissues, included within the carcinomatous matter; but are not, on that account, less frequent and destructive than those which arise in the proper and collateral circulation in cephaloma (fungus hæmatodes). In general, the softening is less complete, the hemorrhage not so considerable, and the sloughing more extensive in the former than the latter." (See Dr. Carswell's Illustrations of the Elementary Forms of Disease, fasc. iii. 4to. Lond. 1833.) Nerves, he says, have never been detected in either of these diseases, as a new formation. — Ed.

§ This probably depends on the absorbent glands under the sternum becoming diseased. Hence likewise the cough that usually takes place in the advanced stage of cancer of the breast. — Ed.

ing pains in this organ, shooting through the region of the pelvis, indurations in the part sensible to the touch, a preceding and immoderate leucorrhœa or menstruation, sometimes both. The ulcerative process, as far as we are acquainted with it, is the same as already described; and, as soon as it has worked to the surface of the organ, there is a sanious, or bloody, or mixed, discharge, characterised by the peculiar stench of the disease. By degrees the labia swell and become œdematous, and if, as sometimes happens, the inguinal glands be obstructed, the œdema extends down the thigh, and the ulceration proceeds often to the bladder and rectum.\*

GEN. VI.  
SPEC. I.  
Carcinus  
vulgaris.

Cancer in the vagina, which, however, rarely takes place, can easily be felt; and, in the rectum, the distinction is not difficult. The nature of the discharge, and the other symptoms just noticed, are sufficient to decide its existence. It is still more obvious in the penis.

Cancer in the  
vagina.

None of these symptoms assist us in determining its presence in the stomach: and hence, how confidently soever it may be conjectured from the marks of an acute and burning pain, tenderness of the epigastrium upon pressure, nausea, and rejection of food, and even an offensive fœtor in the breath, the disease can seldom be completely ascertained till after death. It is sometimes accompanied with vomiting, and sometimes not; and ordinarily the absence of vomiting is an unfavourable sign, as it has often been found to proceed from an induration of the coats of the stomach generally, which has rendered it incapable of contracting, or from a cancerous ulceration and enlargement of the pylorus†, which, upon the slightest pressure, readily admits the contents of the stomach into the duodenum. There is here, however, usually habitual nausea, though without vomiting.

Cancer in the  
stomach.

The progress of cancer in the testicle is often slower than in many other parts. In chimney-sweepers we can trace an obvious cause, which is that of soot lodged in its rugæ, and irritating as well from its own acrimony, as from that of the perspiratory fluid with which it comes in contact and forms an union. A painful rugged sore, with hard rising edges, is first produced; or, sometimes, a little indurated wart; which, from inattention, increases in size, is repeatedly rubbed off by the exercise of climbing, enlarges and deepens its sphere of irritation, grows more malignant, and at length is converted into a real cancer, and affects the whole scrotum, or the body of the testis. In whatever part of this complicated organ, however, the disease commences, it is progressively communicated to the rest; the scirrhus increases in size and hardness, till the tumour often acquires an enormous and irregular magnitude, studded externally with numerous protuberances, and the shape of the testis, even before ulceration, is entirely lost. In the progress of the disease, the spermatic chord becomes affected, and the taint or irritation is communicated more or less to the viscera and lymphatic glands of the abdomen.

Cancer in the  
testicle.  
Chimney-  
sweepers'  
cancer.

From the cancerous effect of a highly irritable wart or crack on the scrotum of chimney-sweepers and smelters of metals, we may derive some idea of the formation of cancers on other superficial

Cancer on the  
lips.

\* Clarke, Observations on the Diseases of Females, &c. 8vo. 1821.

† Mémoire sur le Vomissement, par M. Piedagnel, &c. Journal de Physiologie Experimentale, par M. Magendie, Juillet, 1821. Paris.



GEN. VI  
SPEC. I.  
Carcinus  
vulgaris.

Cancer on the  
tongue.

Such tumours  
seldom true  
cancers on  
their origin.

Cancer has  
terminated  
spontaneously :

Yet rarely  
cured except  
by the knife.  
Progress may  
be arrested by  
medical treat-  
ment.  
Topical bleed-  
ing and applica-  
tions.  
Sheet-lead.

Diet and  
regimen.

Cured by rigid  
abstinence.

parts of the body from a similar beginning. These most frequently occur on the lips, nose, or eyelids; and oftener from a crack than from a wart. The edges of the sore become hard, and one or more tumours issue from them, which increase in size, and gradually evince a cancerous character.

On the tongue, the same disease sometimes shows itself and more usually commences with a small wart or pimple near the tip, which hardens by degrees, grows highly irritable and malignant, and spreading its influence through the entire organs, swells it to a prodigious size, and renders it of a schirrous induration.

These local tumours are seldom entitled to be called cancers on their origin. They are almost always produced, as Mr. Earle has justly observed, by local irritation, and exacerbated by a continuance of the same cause; and hence they rarely give much trouble on extirpation, and perhaps never endanger the constitution. A chronic malignancy may, however, convert them into genuine carcinomata.\*

Cancer is said, in a few instances, to have terminated spontaneously. De Haen gives us one example of this †, and Parr affirms that he has seen six cases of the same in his own practice. But he adds, in proof of its being a constitutional affection, that, in every case, the cure was followed by some other disease, as an enteritis, fixed pains in the limbs, a sciatica, or an apoplexy; in one of these cases, the apoplectic attack occurred twice, and the last was fatal. ‡

In general, however, a cure is rarely affected but by the knife or a caustic, the use of which it does not belong to the present course of study to explain. Yet the progress of the complaint may perhaps be arrested; and we are often able, without cutting, to render it at least tolerable for a series of years. In an early stage of the disease, relief may often be obtained by topical bleeding, as with leeches; and topical refrigerant applications, as saturnine lotions, or sheet-lead in very thin layers, as the linings of tea-packages, an application which has of late been brought forward as something new, but which was employed long ago, and may be found recommended in many of the older journals of established reputation. § The diet should be limited to the mildest nutriment, and wine be sedulously avoided. At this period, indeed, whatever can prevent or lessen inflammation should be seriously studied and adhered to.

Pouteau relates the particulars of a cure produced by rigid abstinence alone, the patient taking nothing whatever but water for a period of two months. ||

\* Medico-Chir. Trans., vol. xii. art. xxii.

† Epist. De Cicutâ, p. 43.

‡ Dict. in verb., vol. i. p. 329. The termination of carcinoma in mortification, from obliteration of veins, is stated, by Professor Carswell, as far from being a rare occurrence. — Ed.

§ Eph. Nat. Cur., Dec. i. ann. iv. v. obs. 161. It is on the principle of diminishing the supply of blood for the nutrition and growth of cancerous tumours that the frequent local abstraction of this fluid, the application of cold, the use of the ligature, and compression, have been recommended as the most effectual means of arresting or retarding their progress. Professor Carswell, op. cit., fasc. iii. — Ed.

|| Nuovo Metodo per curare sicuramente ogni Canchero coperto, &c. Venezia, 1750. Œuvres Posthumes, tom. i.

As, however, the disease advances, and assumes more of a chronic character, the activity of the smaller vessels may be gently urged, in order to relieve or prevent congestion. And, where the irritation is not great, we may by degrees apply gentle stimulants also externally, and let the saturnine lotion be superseded by the acetated solution of ammonia, tar-water as recommended by Quadiro, or the application of mercurial ointment, combined with a small portion of camphor, to the surrounding parts.

The internal medicines, which have been chiefly trusted to for the cure of cancer, are the lurid and umbellate narcotics and the mineral tonics: the former apparently for the purpose of taking off irritation, and in some instances correcting the specific acrimony; and the latter for supporting the living power, and thus enabling the system to obtain a triumph over the disease by its own instinctive or remedial energy.

Of the first class, the chief have been the belladonna and hemlock, and particularly the latter, which appears to have been most promising. When Dr. Stoerck of Vienna published his work upon the successful exhibition of hemlock in cases of confirmed cancer, many of which were vouched for by the Baron Van Swieten, every practitioner was eager for examples upon which to try the experiment for himself. Solanum had been in vogue, but was just sinking into disrepute from its numerous failures; and corrosive sublimate was the medicine chiefly confided in at St. Thomas's Hospital. Dr. Akenside, who was at this time prescribing the corrosive sublimate in the hospital with what he thought a gratifying success, immediately exchanged it for the conium, or cicuta, as it was then called. He tried it upon a large scale in every stage and modification of the disease, and at first with the most sanguine expectations; but his hopes gradually failed him as he advanced in the career of his experiments, and he was compelled to make very great drawbacks upon Dr. Stoerck's commendation of the medicine. He allows it, however, a certain portion of merit, and his account is drawn up with a degree of candour which entitles it to the fullest confidence, and appears to deal out the real truth. In recent states of the disease, where there was no ulceration, or none of any depth, he asserts that it often produced a favourable termination, and gives numerous examples to this effect. But in inveterate cases, where the cancerous ulcer had made considerable progress, its benefit was very questionable: it operated often for a very few days like a charm, diminished the pains and improved the discharge; but suddenly it failed to do the slightest good any longer, unless the dose were very largely increased, upon which a like beneficial effect followed, but unfortunately of equally transient duration. The dose was in many instances again increased, and continued to be so, till at length the symptoms produced by the cicuta were as mischievous as those of the cancer itself, and Dr. Akenside was compelled to abandon it.\*

We are hence in some degree prepared for the contradictory accounts of its effects. De Haen asserts, that it affords neither cure, nor relief of any kind†; Bierchen, that it aggravates real cancer, though sometimes serviceable in scrofula‡; and Lange,

GEN. VI.

SPEC. I.

Carcinus vulgaris.

Treatment.

In the advance of the disease gentle stimulant externally.

Internal medicines chiefly narcotics and mineral tonics.

Narcotics differently estimated.

Hemlock, as extolled by Stoerck and Van Swieten.

Fairly tried by Akenside.

His result:

often serviceable:

but in inveterate cases never cures.

Variable reports of others.

\* Transact. of the Coll. of Phys. of London, vol. i. art. vi. p. 64.

† Rat. Med., II. 37.

‡ Loco citato.

## GEN. VI

## SPEC. I.

Carcinus

vulgaris.

Treatment.

Its virtues often exaggerated.

Failure accounted for in some cases.

Exemplified.

that it is altogether inefficacious.\* Fothergill is friendly to its use †; and Bell ‡ and Fearon § recommend it both externally and internally, alone or in combination with opium.

For this discrepance of judgment, we have in some measure endeavoured to account. Yet the advocates of the medicine have doubtless, in some instances, suffered themselves to speak of it in exaggerated terms; and it is highly probable that in others, where it has seemed altogether inefficacious, the hemlock, whether in powder or extract, was administered in an imperfect state. Dr. Cullen gives a striking example of this last fact in a lady who, being very particular in the use of this medicine, employed the powder as mostly to be depended upon, and weighed out her own doses, beginning with a small quantity at a time, and proceeding gradually till she took sixty grains at once. By this period her parcel of the powder was exhausted, and she had derived no beneficial effect. She supplied herself, however, with another parcel, and being warned that different samples were rarely of the same strength, she reduced her first dose of the new plant to a scruple: yet even this nearly killed her; for in ten or fifteen minutes she was affected with sickness, tremor, giddiness, delirium, and convulsions. Happily, the sickness proceeded to a vomiting, and the poison was rejected. But of the fresh supply she was never afterwards able to take more than five or six grains at a dose, notwithstanding she had taken sixty grains of the preceding without any mischief. ||

Quantities said to have been given, sometimes enormous.

Yet the quantities pretended to be given by some practitioners are far beyond this last amount. Thus, Dease informs us, that he gave AN OUNCE AND A HALF of the powder every twenty-four hours ¶, and performed a cure; and Rostard, that his ordinary allowance was six drachms of the extract for the same period, which is a still higher proportion.\*\* Warner gave a drachm and a half, and thought it an enormous quantity, without mischief. ††

Akenside's statement confirmed generally.

Has other virtues than a narcotic power.

Upon the whole, the balance of experiments seems very much to confirm the candid report of Dr. Akenside. Schaeffer and many others contend, that even its beneficial influence is nothing more than a result of its narcotic power; but it does seem, in some instances, to act as a diseutient, and to improve the quality of the secretion as well as to relieve the pains. Dr. Cullen advances further, and tells us that he has found it, in several cases, make a considerable approach towards healing the sore; "Though I must own," says he, "that I was never concerned in a cancerous case, in which the cure of the sore was completed." ‡‡

Effects of other narcotics.

Of the other narcotics, chiefly of the solanaceous order, that have been employed, it is hardly worth while to speak particularly. The same uncertainty has accompanied their use: and some of them, as aconite and duleamara, have been rather supposed to effect whatever temporary benefit has flowed from their employ-

\* Diss. dubia *Cicutæ vexata*. Helmst. 1764.

† Works, vol. ii. passim.

‡ On Ulcers, part ii. sect. viii.

§ On Cancers, passim.

|| Mat. Med., vol. ii. part ii. ch. vi. p. 264.

¶ Introduct. to the Theory and Practice of Surgery. I.

\*\* Journ. de Méd., tom. xxxviii. p. 36.

†† Treatise on the Eyes, passim.

‡‡ Mat. Med., loco citat.



ment by the general disturbance they produce in the system, whereby a transient stop is put to every other anomalous action, than by their sedative power.

Of the metallic oxydes that have been brought into use, the only ones it is necessary to notice are those of mercury, iron, and arsenic. The first has been uniformly found mischievous when carried to the extent of salivation. Lass asserts that, by this means, he cured a cancer of the nose and face\*; but this was probably a spurious disease of zaruthan, as it has been called by some writers. It has more generally been employed as a gentle stimulant or alterant. Many practitioners have preferred the corrosive sublimate in small doses, but the submuriate is a far better preparation. And even this is given with more advantage in the form of Plummer's or the compound calomel pill, than alone; a form that conveniently unites a mild stimulant with a mild relaxant. To this, if the pain be acute, should be added a small quantity of opium; at the same time carefully guarding the bowels against constipation by any convenient aperient, if the pill itself should not prove sufficient.

Iron has been tried in almost every state of combination. The ferrum ammoniatum appears to have been the most successful, and is still the most popular. Under the name of flores martiales, it was introduced for this purpose before the public as far back as the middle of last century, by Francis Xavier de Mars, obtained, however, by a very uncouth and operose process. Dr. Denman was particularly attached to this metal, in whatever form administered; and broadly affirms that, after having employed almost all the medicines recommended for this disease in every different stage, he has never found any of them possess the pretensions of iron; and that the rest may be generally regarded as totally unavailing.† Its greatly stimulant power rather recommends it to us on the present occasion, than proves an objection; for it is the kind of stimulus we stand in need of to excite a new local action. It is said to produce a very speedy mitigation of pain, an improved discharge, and a less fetid smell; and, even in hopeless cases, to render the disease less malignant and distressing: unfortunately, however, its effects, like those of conium, have rarely been found permanent; and it has closed its career as a palliative, rather than as an antidote.

But of all the medicines of this class, arsenic has acquired the highest and most extensive reputation. This is a strictly oriental remedy, employed, as we shall have occasion more fully to observe when treating of elephantiasis, for every impurity of the blood. Who first ventured upon it in Europe for the disease before us, is not very satisfactorily known. It was common in the time of Hildanus, who ascribes its introduction into practice to the monk Theodoric, who flourished about the beginning of the eleventh century.‡ It has formed the basis of almost all the secret remedies for cancer which have at any time been current, whether external or internal, from that of Fuschius, in the fourteenth century, who united it with soot and serpentary, to that of Richard Guy, who

## GEN. VI.

## SPEC. I.

Carcinus  
vulgaris.  
Treatment.

Metallic  
oxydes:  
mercury, iron,  
arsenic.

Zaruthan,  
what.

Mercury most  
serviceable as a  
gentle stimu-  
lant.

Plummer's  
pill, with  
opium.

Iron: in some  
forms service-  
able.

Ferrum ammo-  
niacale.

Preferred to  
all other  
medicines  
by Denman.

Effects pro-  
duced by its  
use.

Arsenic, high  
and extensive  
reputation.

An oriental  
remedy.

Employed in  
Europe by  
Theodoric  
about the year  
1000.

Basis of all  
nosirums is  
that of Fusch  
and Guy.

\* *Observ. Med.*, b. iv. Lond. 1672.

† *Observations on the Cure of Cancer*, p. 77.

‡ *Cent. vi. obs.* 81.

## GEN. VI.

## SPEC. I.

Carcinus  
vulgaris.  
Treatment.

Real effects  
variously  
described.

wrote upon the] disease\* in the middle of the last century, and whose boasted arcanum was found to be a composition of arsenic, sulphur, hogsfennel (*peucedanum officinale*), and crows-foot (*ranunculus sylvestris*).†

Of the real effects of arsenic, as of several of the preceding medicines, we labour under great obscurity from the discrepant reports which have been communicated. Le Febure, with a host of practitioners antecedent to and contemporary with himself, employed it both externally and internally, and regarded it as a specific.‡ Smalz thinks it serviceable.§ Schneider|| and Justamond declare it to be useless, though the latter employed it locally as an escharotic. Hildanus¶ and Delius\*\* assert it to be injurious; and Schenck†† and Meibom‡‡ give examples of fatal effects from its employment.

Fatal effects, indeed, it is easy to produce, provided a sufficient degree of caution be not employed in experimenting upon it. And, in truth, it is not till lately that any very convenient form has been devised for trying its virtues without a risk of mischief; but the arsenical solution of the London College, for which we are indebted to Dr. Fowler, has given us a preparation of this kind. Yet, even with this advantage, we cannot boast of any certain success in the use of arsenic. It acts very differently on different constitutions, though, generally speaking, it proves beneficial, and in some cases may produce a radical cure. But more commonly, like the preparations of hemlock and iron, it unfortunately loses its effect as soon as the habit has become accustomed to its influence, and the cancerous action resumes its victorious career. And perhaps the only power that is capable of neutralising cancer, or keeping it permanently in subjection, is the existence of a predominant diathesis of some other kind. How far the remark may have been made antecedently I know not, but from a pretty close attention to the subject, within my own sphere of observation, I have been led to conclude, that cancer does not often make its attack upon those who are constitutionally subject to gout, and seems to be restrained by its influence.

The list of external applications is still more numerous than that of internal. We have already glanced at the local treatment before ulceration has taken place. After this period, sedative applications do not succeed, and moderate stimulants alone seem to afford any material degree of relief. In fact, the inflammation has now acquired much of the character of a malignant erythema, and requires warmer applications than phlegmonic sores. §§ Yet a cure is rarely to be effected, except by the caustic or the knife. When the poison was

\* Essay on Scirrhus Tumours and Cancers. 1759.

† Richier, Chir. Bibl., band v. p. 132.

‡ Remède éprouvé pour guérir radicalement le Cancer occulte, et manifeste ou ulcéré. 8vo. Paris.

§ Seltene chirurgische und medicinische Vorfälle. Leips. 1784. 8vo.

|| Chir. Geschichte, Theil. v.

¶ Account of the Methods pursued in the Treatment of Cancerous and Schirrous Disorders. Lond. 1780.

\*\* Dissert. Observat. et Cognit. nonnulla Chirurg., fasc. vi.

†† Observ., lib. 11. N. 304.

‡‡ Blumenbach, Bibl., band viii. p. 724.

§§ The editor has known the liquor opii sedativus preferred, in some instances, to every other dressing; and, on other occasions, nothing was found to afford so much ease as the simple ung. cetacei. — Ed.

Acts differently  
on different  
constitutions:  
but mostly  
does service:

yet apt to lose  
its good effects  
by habit.

How far the  
introduction  
of a different  
diathesis may  
be of perman-  
ent use.

Seems to be  
restrained by  
that of gout.

Local treat-  
ment after  
ulceration.



supposed to be of an acid character, a solution of the alkalis was employed to correct it. It was afterwards conceived to be of an alkaline nature; and various acids, and particularly the carbonic acid gas, were regarded as the best antagonists. Who first employed it for the present purpose is not known; but it stands recommended as early as 1776, in an article of Magellan, inserted in Rosier's Journal; and an easy and convenient mode of application has lately been contrived by Dr. Ewart of Bath. Dr. Crawford, however, for the same purpose, preferred a lotion of muriatic acid diluted with three or four times its weight of water. Carminati and Senebier applied the gastric juice of animals; but poultices of carrots or charcoal have been in more general reputation. [A solution of the chlorides of lime, or of soda, has also been of late years employed.]

All these have a considerable influence in correcting the oppressive fetor, and keeping the sore clean; but whether they go beyond this has been doubted. Yet even this is of great importance, since such an effect must necessarily give some check to the spread of the ulceration, afford solace to the patient, and probably improve the nature of the discharge itself. And hence many writers have been sanguine enough to expect an entire cure from such processes; and others have given accounts of such cures *nearly* accomplished, but which seem seldom, if ever, to have been rendered complete.

Fomentations of hemlock and various other narcotics have been also had recourse to, and sometimes tepid baths of the same, in which the patient has been ordered to sit for twenty minutes at a time; and temporary benefit has sometimes followed the use of these means; but they have often been tried with as little avail as the suckling of toads, which was at one time a fashionable remedy, and esteemed of great importance, the animals being feigned to expire in agonies as the poison of the ulcer was drawn out, and its surface assumed a better aspect. Bouffey, who was a witness to their use, tells us, and probably with some truth, that they did more harm than good\*, and dealt out more poison than they took away. The era of this invention is unknown, but it was still in use about half a century ago in our own country, if we may judge from one of the private letters of Junius to Woodfall, who, alluding to the princess dowager of Wales, at that time afflicted with a cancer that destroyed her in January, 1772, asserts that "she suckles toads from morning till night."†

One of the best detergents appears to be arsenic‡ finely levigated, and sufficiently reduced in strength by an union with calamine or some other ingredient. It is also one of the best caustics, in a simple or more concentrated state, and was freely employed as such by Mr. Justamond. Guy's powder, which we have already noticed, is used externally for the same purpose.§

## GEN. VI.

## SPEC. I.

Carcinus  
vulgaris.  
Treatment.  
Alkalies.  
Ammonia.  
Acids.  
Carbonic acid  
gas.  
Muriatic acid.  
Gastric juice.  
Charcoal.

The general  
effect of these.

Narcotic  
fomentations.

Suckling of  
toads.

Arsenic powder  
a good deter-  
gent.

\* Journ. de Méd., tom. lxii.

† G. Woodfall's edition, vol. i. p. \*241.

‡ In consequence of many patients having fallen victims to the absorption of arsenic from the surface of cancerous and other anomalous sores, few modern practitioners now venture to apply powdered arsenic to carcinomatous ulcers.  
— Ed.

§ Baron Dupuytren uses arsenical applications, prepared so as to modify the diseased surface, without acting as a caustic. The formula of the powder which he applies is 4 parts of arsenical acid and 96 of the submuriate of mercury in



GEN. VI.  
SPEC. I.  
Carcinus  
vulgaris.  
Treatment.

[Mr. Carmichael some years ago strongly recommended the application of preparations of iron to ulcerated cancers, and gave a very interesting account of the good effects which he had seen arise from them. The plan has been repeatedly tried in this country, but its success here has not corresponded with that stated to have resulted from it in Ireland. When a medicine or application proves successful in the hands of one surgeon, and unsuccessful in those of another of equal skill, the inference is, that, if the medicine or application in each case be undoubtedly of similar qualities, but its effects different, the cases themselves cannot precisely correspond in their nature. No doubt, many alleged specifics for cancer have obtained their repute by the circumstance of their having cured tumours and ulcers, which only somewhat resembled, but were not really cancers.]

Sheet-lead in  
union with  
rigid compres-  
sion.

We have already observed that sheets of lead, among other preparations of this metal, were applied to the cancer about forty or fifty years ago, and bound over it with some degree of pressure. But a pressure of a much severer kind, together with the use of the same metallic sheeting, was employed, a few years ago, by Mr. Young, a fair and impartial trial of whose plan, however, by other surgeons, has completely proved that it is generally more hurtful than beneficial.

Little depend-  
ence on any  
measure but  
extirpation by  
the knife or  
cautery.

After all, when the cancerous character of the tumour is once decidedly established, little dependence is to be placed upon any plan but that of extirpation with caustic or the knife. The actual cautery, as employed by M. Maunoir, of which we shall have to speak more at large when discussing the genus *ULCUS*, may, perhaps, be most advantageously made use of in small cancers of the face; but the knife is the preferable instrument where the organ is large and extensively affected. Mr. Bell advises an early performance of the operation; Mr. Pearson, that we should wait till the extent of the disease has fully unfolded itself, so that no morbid part may be left behind.\* Yet some parts may be doubtful even at last, and, wherever there is the least suspicion of this, they should unquestionably be removed along with the more decided portion of the morbid structure.

Operation at  
which stage  
best performed.

Even this remedy, however, can only apply to exterior organs, or to organs that can be brought down to the surface; for the uterus has been occasionally extirpated with success, but, far more frequently, without any benefit, perhaps from the operation having been postponed till too late. In all other instances, the practice is melancholy from the first. The die is cast, and all we can hope to

But even this  
measure inap-  
plicable to  
cancer in in-  
ternal organs.

---

every 100. Occasionally the proportion of arsenic is increased to 5 or 6 in 100. When the Baron uses a liquid, or paste, he merely blends the above powder with distilled water, or gum arabic powdered and moistened. When, however, the lotion is employed, 6, 8, 10, or even 12 parts of arsenic may be the proportion of it to the calomel. It is chiefly for phagedenic, or inveterate ulcerations about the nose, lips, and face, that Baron Dupuytren has recourse to this *heroic* remedy, as he calls it. See *Leçons Orales de Clinique Chirurgicale*, tom. iv. p. 471. et seq. 8vo. Paris, 1834. — Ed.

\* The maxim of every surgeon of judgment in the present day, is to recommend the removal of every truly cancerous disease as soon as its nature is manifest. This proves the general inefficiency of all medicines and local applications, and the dangers resulting from delay. — Ed.

accomplish is to postpone the fatal result, to mitigate the sufferings of the day, and soften the harsh passage to the tomb. „

GEN. VI.  
SPEC. I.

## GENUS VII

### LUES.

#### VENEREAL DISEASE

ULCERS ON THE GENITALS, INGUINAL BUBOES, OR BOTH, AFTER IMPURE COITION; SUCCEEDED BY ULCERS IN THE THROAT, COPPER-COLOURED SPOTS ON THE SKIN, BONE-PAINS AND NODES.

THE term LUES is derived from the Greek λύω, “solvo, dissolve” — “to diacerate, dissolve, or corrupt;” and, agreeably to the common rule of expressing the power of the Greek ι by a Roman y, should be written LYES, as in the case of *Lyssa* and *Paralysis*, both of which are derived from the same root; but lues has been employed so long and so generally, that it would be little less than affectation to attempt a change, and in allucination, or hallucination, from the Greek ἄλυσια, or ἄλυσις, we are supported by a similar example of deviation from the common rule.

It appears to have been known to the world from an early age, as I have remarked in the running comment to the volume of Nosology, that acrimonious and poisonous materials are, at times, secreted by the genitals, capable of exciting local, and, perhaps, constitutional, affections in those who expose themselves to such poisons by incontinent sexual intercourse. Celsus enumerates various diseases of the sexual organs, most of which are only referable to this source of impure contact; but the hideous and alarming malady, which was first noticed as proceeding from the same source towards the close of the fifteenth century, and which has since been called almost exclusively VENEREAL DISEASE, has suppressed, till of late, all attention to these minor evils, in the fearful contemplation of so new and monstrous a pestilence, to various modifications of which most of the anterior and slighter diseases of the same organs seem to have been loosely and generally referred, as though there were but one specific poison issuing from this fountain, and consequently but one specific malady. On which account, much confusion has arisen in the history and description of the disease; and syphilis, its most striking species, though commonly admitted, as we shall see presently, to be comparatively of recent origin, is by Plenck \*, Richter †, Stoll ‡, and other writers of considerable eminence, regarded as of far higher antiquity: asserted by Lefevre de Villebrune § to have existed eight centuries before the expedition of

GEN. VII.  
Derivation of the generic term.

Acrimonious fluids secreted by the genitals capable of producing various diseases, known from an early age: and hence alluded to by Celsus.

But all the rest merged in syphilis since its first appearance in the fifteenth century.

Hence numerous mistakes concerning the history and description of syphilis itself.

\* Beobachtungen, &c. ii.

† Chir. Bibl., band i. sect. ii. p. 163.

‡ Praelect., p. 94.

§ Retz. Annales, iv.

GEN. VII.  
Lues.

Hunter's correct view of the subject : confirmed by Abernethy's observations.

Columbus to America, and by De Blegny \* to have been extant in the Mosaic age.

The keen and comprehensive mind of Mr. John Hunter first called the attention of practitioners to the idea of different poisons and different maladies ; and the subject has since been pursued by Mr. Abernethy with a force of argument and illustrated by a range of examples that seem to have put the question at rest. Mr. Abernethy has sufficiently established that, independently of the specific disease now generally recognised by the name of syphilis, there are numerous varieties of some other disease, perhaps other specific diseases, which originate from a distinct, possibly from several distinct, poisons secreted in the same region from peculiarity of constitution or causes hitherto undiscovered, and which are accompanied with primary and secondary symptoms that often vary in their mode of origin, succession, and termination, from those of genuine syphilis, though, in many instances, they make a striking approach to it, and to which, therefore, Mr. Abernethy has given the name of pseudo-syphilitic diseases. †

Whether these diseases, so like syphilis, are distinct species, or modifications of a common species, not known decisively.

Most convenient at present to regard them in the latter view.

The approach, indeed, is often so close, as to render it difficult, and occasionally, perhaps, impossible, to decide between them ; and hence, whether these really constitute distinct species, issuing from distinct sorts of infection, or are mere varieties or modifications of one common species produced by one common morbid secretion, has not yet been sufficiently determined. In this ignorance upon the subject, it is better, for the present, to regard them in the latter, as being the more simple view ; and, with this preliminary explanation, the expediency of allotting the two following distinct species to the genus *lues* will, I think, be obvious to every one.

1. LUES SYPHILIS.

POX.

2. — SYPHILODES.

BASTARD-POX.

\* *L'Art de guérir les Maladies Vénériennes, &c.*

† Had Dr. Good taken a correct view of the facts, disclosed in the paper on syphilis, inserted by the late Mr. Rose in the *Medical and Chirurgical Transactions of London*, he would have perceived, that nothing could be more conducive to error, than the circumstances which Mr. Abernethy regarded as tests of the true venereal disease. One notion which he adopted was, that the venereal disease always became progressively worse, unless mercury were prescribed ; and, consequently, another part of his creed was, that if a sore or other complaint got well, without the aid of the specific, fancied to be quite essential to the cure of every real form of the venereal disease, the fact was an adequate proof, that the case could not have been of the latter nature. All these, and several other doctrines, formerly entertained, have been annihilated by the plain and impartial details published by Mr. Rose. Most of Mr. Abernethy's syphiloid cases are now generally believed to have been truly *syphilitic* ones.

— ED.



## SPECIES I. LUES SYPHILIS.

### POX.

ULCERS ON THE GENITALS CIRCULAR, UNGRANULATING, THICKENED AT THE EDGE; THOSE OF THE THROAT DEEP AND RAGGED; SYMPTOMS UNIFORM IN THEIR PROGRESS; SPEEDILY AND UNIFORMLY YIELDING TO A COURSE OF MERCURY WHERE IT AGREES WITH THE CONSTITUTION; LESS CERTAINLY AND WITH MORE DIFFICULTY YIELDING WITHOUT IT.

THE vulgar term for the ulcers is *Chancres*, and the vulgar name for the disease is *Pox*, formerly *Great pox*\*, as contradistinguished from VARIOLA or SMALL-POX, on account of the larger size of its blotches. It was also very generally called French Pox, as being supposed to be a gift to Europe from the French nation.

There is some uncertainty concerning the origin of the specific term SYPHILIS, which Swediaur ascribes to Fernelius, but which assuredly existed long before his day; and was probably invented by Fracastorio about the close of the fifteenth century, from the Greek *σὺ* and *φίληα*, importing "mutual love;" for such is the title by which he has designated his celebrated and very elegant poem upon this very inelegant subject.

There is an equal uncertainty as to the quarter in which the disease originated. It is usually ascribed to the American continent, and believed to have been imported into Europe by the crews of Columbus on his first or second return home in 1493 and 1496; a belief, however, which seems to be altogether without foundation. for, at the period even of the first return of this celebrated circumnavigator in March, 1493, it seems to have preceded this return by some weeks; since, on his reaching Seville in the ensuing month of April, in order to join the Spanish army, it had already arisen, and was spread over Auvergne, Lombardy, and various other parts of Italy; as, in the course of the summer months, it was observed in Saxony, Brandenburg, Brunswick, Mecklenburg, and especially Strasburg, as all the German writers concur in admitting†; and even at Cracow, in Poland, according to Strykowski's Chronicle of Lithuania; while Fracastorio, who was an eye-witness of the entire progress of the disease, and, from his high medical reputation, and residence almost on the spot of its first appearance, more largely engaged in the cure of it than any physician of his day, asserts, that it was even ravaging a considerable part of Asia and Africa, as well as of Europe; "Europam," says he, "ferè omnem, Asiæ verò, atque Aphricæ, partem non par-

GEN. VII.  
SPEC. I.

Derivation of the specific term traced differently.

Origin of the disease disputed.

Whether imported from America by the crews of Columbus.

Question examined.

Appeared in Europe too early for this.

\* De Henry, La Méthode curative de la Maladie Vénérienne, vulgairement appelé la Grosse Vérole, &c. Paris, 8vo. 1552.

† See especially Meiner, Sitten des mittel Alten. Stumpf, Schweitzer Chronik, lib. xiii. Stietler, Schweitzer Chronik, lib. vii. Sprengel, Geschichte der Arzneykunde, theil ii.

GEN. VII.  
SPEC. I.  
Lues syphilis.

vam occupavit." \* The writer proceeds to notice the dispute that was then hotly engaged in as well concerning the nature as the origin of the disease, and again expresses his disbelief in its having been imported from America by the crews of Columbus. On this account, he feels himself at liberty to give it a very early origin in his poem upon the subject, and describes his fictitious hero Syphilus as having brought down the disease upon himself and the world at large as a curse for having insulted Apollo, while tending the flocks of King Alcithous.

Protinus illicivies terris ignota profanis  
Exoritur : primus, regi qui, sanguine fuso,  
Instituit divina, sacrasque in montibus aras;  
SYPHILUS ; ostendit turpes per corpus achores,  
Insomnes primus noctes, convulsaque membra  
Sensit, et à primo traxit cognomina morbus :  
SYPHILIDEMQUE ab eo labem dixere coloni.

One of the earliest German writers, who ascribed the disease to the return of Columbus, is Leonard Schmauss, a physician of Strasburg, whose works were published in 1518 ; but neither his history nor his arguments are in any degree satisfactory: while his countryman Matern Berlen, a clergyman of Ruffach, and an eye-witness of the disease on its first appearance, assigns it a very different origin ; and, in his history of the Italian expedition of Charles VIII., declares it to have been a punishment inflicted by the Almighty on this monarch and his subjects, in consequence of his having carried off the Duchess Anne of Bretagne from the Emperor Maximilian, to whom she had been betrothed.

Among the Spanish writers, there are two chiefly who ascribe the origin of syphilis to an American source ; while others, by their silence upon the subject when detailing the particulars of the return of Columbus, give sufficient evidence that they disbelieved the report. Of the two who thus contributed to spread it, one of them, Gonçalvo Hernandez de Oviedo, affirms that it was conveyed into Italy by Cordova's fleet, which, however, did not arrive in Italy (Messina) till May 24. 1495, and, consequently, not till two years after the disease had existed there. The other is Sepulveda, who, in a history of America, written in a good Latin style, towards the middle of the sixteenth century, roundly asserts, that "*ex Barbaricarum mulierum consuetudine Hispani morbum contraxerunt.*" But as this writer does not, like his contemporary Fraeas-torio, enter into the particulars of the controversy, his assertion can go no farther, than to the weight of his own individual opinion in a controverted case.

Amongst those, who have been most full in their accounts of the voyages of Columbus, and the discovery of America, we may certainly reckon Antonio de Herrera. He fixes the return of Columbus at the period above specified ; and is very particular in detailing the order sent to Lisbon to him, on the moment of his arrival, to follow the Spanish court to Barcelona, to which city it was then removed ; the highly honourable reception the great navigator received ; the preparations which were immediately made for his second voyage ; the speed with which these preparations were accomplished ; and the instructions given to him on the occasion.

\* De Contagiosis Morbis.

Gonçalvo  
Hernandez  
de Oviedo.  
Sepulveda.

Antonio de  
Herrera.

Yet not a hint is added, that his crews were unhealthy; that the new recruits had any dread of the plague, to which, had he brought it home, they must have known they were about to be exposed, nor a single instruction to be provident of their health in this respect. He took leave of the royal pair with every mark of distinction, the whole court accompanying him to his house as well at the time as when he quitted Barcelona. "*Despidóse,*" says Herrera, "*de los Reyes, y aqual día le acompañó toda la corte de palacio á su casa, y tambien quando salió de Barcelona.*" \*

Linnaeus stands alone in arranging syphilis as an exanthem, along with small-pox and measles. He thought himself justified from the fever which occasionally accompanies the copper-coloured spots on the skin, in an advanced stage of its secondary symptoms; or perhaps from the fever which, on the first appearance of the disease, unquestionably accompanied it, and uniformly preceded the eruptions. For it is an extraordinary fact, to which all the contemporaneous writers bear witness, that syphilis, when it first broke forth upon the world, and, indeed, as it is described in Fracastorio's poem, was not only called the plague, but was, in truth, a specific fever attended with most violent putrid symptoms, together with carbuncles, buboes, and other glandular abscesses, which discharged a malignant sanies often fatal, and even, when recovered from, leaving the most melancholy marks of its ravages.

And hence, in many places, the infected were as much exiled from the community by a line of cirenvallation drawn around them, as in the case of plague. In Scotland, indeed, they were strictly prohibited all medical assistance, and inhumanly left to the effects of their own licentiousness: for Mr. Arnot gives the copy of an order from the privy council of Edinburgh, which equally banished to the island of Inchkeith those who were affected with the disease, and those who undertook to cure it. †

By degrees, however, the disorder appears to have assumed a chronic form, and at length so far changed its nature, as to make its attack without fever, and to remain local except from absorption. It seems still, indeed, to be continuing its course of melior-

GEN. VII.  
SPEC. I.  
Lues syphilis.

Syphilis arranged by Linnaeus as an exanthem.

His ground for so doing.

Syphilis at first regarded as a species of plague, and marked at once by malignant and fatal symptoms.

Has grown gradually milder.

\* Hist. Gen. de las Indias Occidentales, Decad. 1. lib. 11. ch. v.

† History of Edinburgh, by Hugo Arnot, Esq. 4to. 1789.—With reference to the origin of syphilis, the editor is sceptical about the correctness of the doctrine which attempts to refer the first commencement of the complaint only to one source. Is it rational to believe, that all the syphilitic mischief, that has scourged the various cities, kingdoms, and generations of the world, has arisen from the mours of a single unfortunate individual, in whom the virus was first produced? Are we to fancy, that the disease never had but one primary source? and that it is to the mysterious concoction of the poison in one individual alone, that all quarters of the world are under obligations for the gift of the venereal disease? No doubt syphilis must have had a beginning, like every thing else; but probably it has had numerous beginnings. Various considerations would lead us to expect (what is, indeed, the fact), that in every country where the population is numerous, and promiscuous sexual intercourse exists, the venereal disease would be prevalent. Mr. Travers has, consequently, declared it to be his belief, that if all the syphilis in the world were to be now annihilated, a never-failing source of the disease would still remain, in the action of the matter of superficial or gonorrhoeal ulcers of the penis on the human constitution. (See his Pathology of the Ven. Disease.) In relation to this part of the subject, Mr. Wallace also considers it not in opposition to the general laws of nature, that the venereal disease may have arisen on different occasions spontaneously. (See Treatise on the Venereal Disease and its Varieties, p. 8. 8vo. Lond. 1832.) At the same time he adds,—



GEN. VII.  
SPEC. I.  
Lues syphilis.

Melioration  
accounted for.

Syphilis  
distinguished  
by symptoms  
local and con-  
stitutional.

Usually pro-  
duced by im-  
pure coition :  
sometimes by  
other means.

First stage,  
consisting of  
primary local  
symptoms.  
Chancres,  
what.

ation, notwithstanding the assertion of Dr. Swediaur \*, that it has not assumed a more mitigated character at present than in former times ; for very severe cases are now much rarer, not only in private practice, but even in public hospitals, than they were thirty or forty years ago.

It is possible that this change may have been produced by two causes ; firstly, by the virus wearing out its own strength and becoming milder as it descends to different individuals and generations, and has to cope with the force of sound constitutions, and, perhaps, also, with a perpetual instinctive power or vis medicatrix naturæ, constantly labouring to subdue it : of which we shall hereafter have occasion to offer other examples than the present. And, secondly, it is also highly probable, that the frequent and indeed universal use of mercury for its extermination has succeeded, as a specific, in softening its violence, in the same manner as we know the virus of cow-pox succeeds in giving a milder character to small-pox, even where it does not altogether answer as a prophylactic.

Syphilis shows itself under two distinct sets of symptoms, local and constitutional, the latter of which is commonly, but not always, a sequel of the former.

In which way soever it is produced, it is usually by means of impure coition ; though we shall have occasion to show presently, that syphilitic matter coming in contact with any part of the surface of the body, where it is capable of burrowing and meeting with a little mucus, sweat, or, perhaps, any other natural secretion, is capable of assimilating it to its own nature, and hence of introducing the disease into the system by absorption, and consequently without any breach of surface. And hence, as other parts, than the sexual organs, may be a medium of communication, no local symptoms may in some instances ensue, and the constitutional signs be the first to manifest themselves.

The earliest ordinary mark, however, that infection has taken place, is the appearance of one or more minute pimples of a peculiar kind, which are called chancres ; having a hard inflamed base, of a pale red hue, and an irritable apex, which next opens with a small eyelet, becomes ulcerated, and discharges a small portion of limpid virus, that produces fresh chancres wherever it spreads. In the common mode of infection, the chancre shows itself on the prepuce, glans, and orifice of the urethra in men, and about the labia, nymphæ, clitoris, and lowermost part of the vagina in women. This mark sometimes appears as early as the third or fourth day after coition, more generally, however, a few days later ;

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" No cases have occurred to me, nor have I heard or read of any, in which the evidence was quite satisfactory, that a deranged state of general health, or simple local irritation, or other accidental causes, either local or constitutional, ever produced by their influence on the system any effects which resembled, in their series or order, the constitutional symptoms of the venereal poison." (p. 12.) The question, however, more immediately under our consideration is, not whether this poison exists at all, but, admitting the reality of its existence, whether it has had one or numerous origins ? and whether it can originate under the circumstances adverted to by Mr. Travers ? — En.

\* Beobachtungen, &c. p. 172.

and in some instances, where the cutaneous absorbents possess little irritability, not till a lapse of several weeks. The chancre occasionally degenerates into a hard and irritable wart, with which the genitals are frequently studded, sometimes as low down as the anus.

Another local symptom is the formation of a bubo in one or both groins, evidently produced by an absorption of the virus first deposited, or, as is more commonly the case, multiplied in the ulcerated chancre, communicated to the lymphatics, and hence to the inguinal glands, which, in consequence, become inflamed and tumefied. The tumour, when first perceived, is small, but hard, fixed, and diffused, with a somewhat obtuse pain. It enlarges gradually, and becomes more acutely painful, so as to render walking troublesome; and, if not opened by the lancet, generally bursts by the time it has reached the size of a pullet's egg, and discharges a copious quantity of pus from a single hollow. In a few instances, the suppurative inflammation does not follow, and the tumour, as it augments, acquires considerable induration.

Sometimes, also, the inflammation extends by sympathy to the spermatic chord, which is inflamed and rigid through a great part of its course, while the testes themselves are tender and considerably swolen.

And occasionally, from sympathy also, or an entrance of a part of the received virus into the urethra, its mucous membrane becomes inflamed, and pours forth a considerable secretion of pus or purulent mucus, resembling that of *blemorrhœa*, or *gonorrhœa*, as it is commonly called, or the discharge from the eyes in purulent ophthalmia.

This was at one time mistaken for a genuine *gonorrhœa*, and the two diseases were very generally regarded as only different modifications of one and the same species. And some practitioners continue to be of the same opinion still, notwithstanding all the facts that have been adduced in proof of their being distinct maladies produced by distinct kinds of contagion.\* The local symptoms of syphilis, chancres, and buboes, are perpetually occurring without *gonorrhœa*, and *gonorrhœa* without chancres and buboes. Insomuch, that there are not wanting practitioners who affirm, that they never occur together, unless the two venoms are received simultaneously. And there is no doubt, that this assertion is true in regard to a genuine *gonorrhœa*; but, from the cause already stated, a large flow of pus or purulent matter, and a general irritation and enlargement of the body of the penis, in appearance strongly resembling the symptoms of a genuine *gonorrhœa*, sometimes coincide with the primary signs of a syphilis, of which a very marked case occurred to the author not long ago, which he showed to an eminent surgeon of the metropolis who had antecedently been incredulous upon this point. And hence a like admission of Professor Frank, who, however, does not speak very decidedly upon the subject; and has strangely placed syphilis not

GEN. VII.

SPEC. I.

Lues syphilis.

First stage.

Bubo, its  
description  
and progress.Occasional  
inflammation  
of spermatic  
chord.Sometimes of  
urethra; with  
a purulent  
discharge  
resembling that  
of *gonorrhœa*;  
and formerly  
mistaken for it;  
whence the two  
diseases re-  
garded as one  
and the same.Proofs of  
distinction.

\* Thus, in an enumeration of the morbid states or actions, produced by the direct application of the venereal poison, we find included, by one of the latest writers on the subject, "an increased and morbid secretion from the diseased surface of the urethra, constituting the state commonly called *gonorrhœa*." Wallace, on the Ven. Disease, p. 45. 8vo. Lond. 1833. — Ed.

## GEN. VII.

## SPEC. I.

Lues syphilis.

only with gonorrhœa, but with leucorrhœa, mucous piles, hernia humoralis, and a variety of other diseases, under one and the same indistinct genus, to which he has given the name of medorrhœa.\* But the clearest and most incontrovertible proof of distinction between the two complaints immediately before us is, that in no instance whatever has a simple gonorrhœa, unconnected with bubo or chancre, produced those secondary or constitutional symptoms, to which the proper local signs of syphilis are sure to lead, if not corrected in their progress.

Second stage, consisting of secondary or constitutional symptoms.

Ulcerated throat and mouth.

Inflamed eyes.

Copper-coloured spots on the skin.

Pains in the limbs and bones.

Nodes.

Caries of various bones, especially of the nose and palate.

Countenance fallow.

Loss of hair and appetite.

Heetic fever.

Disease remains in a local form to an uncertain period: as well as dormant in the system. Local symptoms often appear about four or five days after infection.

Constitutional from a period of three weeks to six months.

These symptoms are, a progressive soreness and ulceration of the tonsils, uvula, palate, and tongue; the voice being rendered hoarse, and the swallowing difficult. The ulcers about the fauces are of a distinctive character, being foul and rugged, with an excavated centre covered with a brown or whitish slough, and surrounded with a hard, red, elevated, and erythematous outline.

Sometimes the mucous membrane of the conjunctive tunic of the eyes next suffers in the same way, and displays an inflamed surface, with ulcerations on the eyelids and angles of the eyes.† The skin is in various parts covered over with copper-coloured spots, which at first desquamate in scurfs, afterwards in scales, and still later in scabs; each of which leaves a foul ulcer, that gradually grows deeper, and discharges an offensive fluid.

As the disease advances, irregular pains shoot through the limbs, and are felt so severely at night as to prevent sleep. By degrees they strike into the bones, which become diseased, and in many places swell into nodes, which at length grow carious: while the ulcerations about the fauces spread at the same time, or even before this, to the adjacent bones of the palate and nostrils, which are gradually eroded and carried away; so that the speech is rendered nasal and imperfect, and the nostrils are flattened to the level of the cheeks.

Finally, the countenance grows fallow, the hair falls off, the appetite is lost, the strength decays, and a low hectic preys upon the system, and at length destroys it.

It is not easy to say how long the matter of syphilis, when once communicated, may remain limited to the local symptoms of chancres or buboes, or continue inert in the system where no local symptoms have taken place; or what period must intervene before a patient may be pronounced safe after having exposed himself to contamination. We have already seen that the primary or local signs generally manifest themselves within four or five days; and, where the constitution has become infected without them, we have reason to expect the appearance of the secondary symptoms soon after three weeks, or from this time to six months: and, if this latter interval have passed without the slightest manifestation of mischief locally or generally, we have little reason to fear for the issue. It has been said, however, that the poison has lurked unperceived for several years; yet it is rarely that such an assertion is made, except for the purpose of excusing some fresh infection. I should, indeed, have been disposed to think it had never been made other-

\* De Cur. Hom. Morb. Epit., tom. v. p. 149. Mannh. 8vo. 1792.

† Amongst the secondary symptoms Dr. Good should have mentioned iritis, which is a far more unequivocal effect of syphilis, than the affections of the conjunctiva and eyelids, to which he has alluded. — Ed.



wise, but that Dr. Hahnemann has referred to an instance or two to the contrary, in which he places full confidence \*; and particularly that the late Mr. Hey of Leeds, whose authority is indisputable, has offered it as his opinion, formed from a variety of cases that had occurred to him during an extensive practice of nearly threescore years, that a man may communicate the disease after all its symptoms have been removed, and he is judged to be in perfect health; and that a mother who has been once affected may convey it, notwithstanding an apparent cure, to two, three, or four children in succession, each of whom he supposes will have it in a milder form than the preceding one; as though it were gradually ceasing in the constitution, though it still continues to show some degree of activity. †

It is obvious, however, that in syphilis, as in various other diseases produced by the absorption of a specific virus, different constitutions are differently affected, and that some are far more susceptible of the morbid action than others. In many instances, it is received by simple contact alone, and through an unbroken skin. It is generally, perhaps, thus received in the ordinary course of connection; but still more evidently thus in other cases, and by other organs: for it has been very frequently caught by sucking the nipple of an infected wet-nurse; by infected saliva communicated in kissing; by drinking out of a cup that has previously been used by a syphilitic patient ‡; and it is said to have been produced

GEN. VII.

SPEC. I.

Lues syphilis.  
Second stage.

Has been said to lurk for several years, but very rarely, if ever.

Yet the assertion supported by Hahnemann and Hey.

Hence some constitutions more susceptible of the virus than others.

Sometimes received by simple contact through an unbroken skin by sucking an infected nipple:

\* Hahnemann, Unterricht für Wundärzte über die Venerischen Krankheiten. 8vo. Leipz. 1789.

† Facts illustrating the Effects of the Venereal Disease. By William Hey, Esq. F.R.S. 1816. The doctrines here adverted to, particularly that of the poison *turkica* unperceived in the constitution for many years, and that of a man in perfect health, or without any perceptible ailment about him, being able to communicate the disease to a woman, may be considered as now having few advocates. As the disease may be transmitted from the mother to the fœtus through the medium of the blood, a suspicion has frequently been entertained, that it is likewise communicable through the medium of the natural secretions, the saliva, milk, semen, &c. With respect to the fœtus, we may infer, that it receives the infection by means of the circulating blood, in the same manner as the mother herself receives her secondary symptoms; but, with regard to the saliva, semen, and milk, it is difficult to pronounce how far these secretions will serve as means for the transmission of the disease, till the power of the secondary symptoms in general to do so, is better made out. The editor believes, with Mr. Travers, that none of the natural secretions of a contaminated individual can communicate the disease to other persons. The following statement in this gentleman's work (Pathology of the Ven. Disease), is interesting: a man, who has syphilis in the secondary form, provided he be free from all affections of the genitals, will communicate no taint to his progeny, any more than to his wife; but a healthy wet-nurse, getting a sore nipple, in consequence of suckling a pocky child, and having secondary symptoms, will communicate the disease to the fœtus, of which she may become pregnant. This, we see, is agreeable to the usually received opinions, that the blood will contaminate the embryo, though all genital sores may be absent, and though the party cohabiting with the woman is actually beyond the sphere of the influence of the disease in her. As far as the present state of our knowledge of the subject reaches, we may conclude, that the disease is only communicable through the medium of a parental fluid, and not an ordinary secretion, with the exception of the mode of its transmission to the fœtus, which receives the infection through the circulation, and may therefore be regarded as under the same circumstances with respect to the secondary effects of the disorder as the mother herself. — Ed.

‡ Reid, Diseases of the Army, &c. Griner, die Venerische Ansteckung durch gemeinschaftliche Trinkgeschirre. Weissenfels, 1787.

## GEN. VII.

## SPEC. I.

Lues syphilis.  
Second stage.

by infected  
breath :  
by the inser-  
tion of an  
exotic tooth :  
an infected  
lancet :  
or the attend-  
ance of an  
infected mid-  
wife.

Melancholy  
example.

by receiving infected breath\*, and lying in a bed which had been antecedently occupied by a person labouring under the disease† : in some of which cases, however, it seems necessary to suppose the existence of a cut or crack or some other breach of surface in the skin, and particularly about the lips, with which the syphilitic virus must have come into union. And it is hence easy to conceive how much more readily it may be communicated by the insertion of an exotic tooth‡, by bleeding or scarification with an infected lancet§, or by the attendance of an infected midwife||, who has sometimes given the complaint both to the mother and the child.¶

A very melancholy instance of infection is related by Dr. Barry of Cork, communicated by a woman who was in the habit of drawing the breasts of puerperal patients; and who, upon examination, was found to have chancres on the lips and roof of her mouth, probably caught from some impure person in the course of her vocation. From the numerous engagements of this woman, the disease had spread very widely; and the rapidity of its progress was as striking as the manner of its communication. "The nipple," says Dr. Barry, "first became lightly inflamed, which soon produced an excoriation, with a discharge of a thin liquor: from whence red spreading pustules were dispersed round it and gradually spread over the breast, and, where the poison remained uncorrected, produced ulcers. The pudenda soon after became inflamed, with a violent itching, which terminated in chancres that were attended with only a small discharge; and, in a short time after, pustules were spread over the whole body. It finished this course, with all these symptoms, in the space of three months. The disorder made a quick and rapid progress in those who first received it, they not being apt to suspect an infection of this nature in their circumstances. The husbands of several had chancres, which quickly communicated the poison, and produced ulcers in the mouth, and red spreading pustules on the body. But some of them escaped who had timely notice of the nature of the disease before the pudenda were affected. Some infants received it from their mothers, and to the greatest part of them it was fatal."\*\*

\* Reid, Diseases of the Army, &c.

† Horstius, opp. ii. p. 315.

‡ Watson, Medical Transactions, vol. iii. p. 325.

§ Girtanner, die Venerischen Krankheiten, &c. p. 165.

|| Aet. Nat. Cur., vol. vii. obs. 75., vol. ix. obs. 94.

¶ The faith to be put in several of these alleged modes of infection must be regulated by the well-established fact, that the venereal disease cannot be communicated unless the infectious matter be directly applied and lodged upon some part of the body of the person who catches the disease. The communication of the disorder through respiration, or by sleeping in a bed in which a venereal patient has previously lain, would not generally be credited by surgeons of the present time. — ED.

\*\* Edin. Med. Essays, vol. iii. art. xxi. p. 297. The real nature of the disease here spoken of is very ambiguous, and much doubt must be entertained respecting its syphilitic character; for, according to received opinions, it is not the ordinary course of the venereal disease to be communicated through the medium of any other secretion than the matter of a chancre, nor to attack the pudenda secondarily, after the infection has been originally communicated through some other quarter. According to Mr. Hunter, the matter of secondary venereal sores cannot impart the disease. However, it should be noticed, in opposition to the doctrine of the venereal disease being only communicable by the application of the matter of a chancre to the body of the person who catches the disease, that many

Where a wet-nurse and the infant she suckles are both affected, and there is a doubt which has communicated it to the other, collateral circumstances will assist us much: but where the one, as is usually the case, has constitutional symptoms, and the other only local, the former must have had the disease longest, and consequently have been the source of contamination.

Such, however, is the insusceptibility of some idiosyncrasies, that the matter of syphilis, like that of small-pox, seems to have no effect upon them, and they are proof against its activity. I once knew a young physician, who, finding himself to be thus naturally protected, fearlessly, and for the sake of experiment, associated himself with females in the rankest state of the disease, and escaped in every instance. In like manner, Schenck\* gives us a case of an infant rendered syphilitic through a diseased father, while the mother remained unaffected; and Mauriceau and other writers give cases of infants which have been fortunate enough to avoid infection, though born of syphilitic mothers†: while Pallas asserts, that the Ostiacks have a general immunity from the disease, under whatever form it offers itself.‡

And, after all, the symptoms that characterise the disease, as well in its first as its second stage, are at times so nearly approximated by those which are occasionally traced in the second species of this genus, syphiloid lues or spurious syphilis, that it is often extremely difficult to distinguish them, and we are obliged to enter minutely into the history of the case, in order to assist our decision.

It was regarded by Mr. Hunter as a pathognomonic character of syphilis, firstly, that it never ceases spontaneously; secondly, that it is uniform and progressive in its symptoms; and thirdly, that it is only to be cured by mercury. And such were the doctrines of a few of his warmest advocates almost down to the present time.§

GEN. VII.  
SPEC. I.  
Lues syphilis.

Some constitutions insusceptive of the disease.

Illustrated.

The Ostiacks generally insusceptive.

Difficulty at times of distinguishing between syphilis and syphiloid lues.

Hunter's pathognomonics;

cases are recorded of infants contracting the complaint, as was supposed, through the milk of infected nurses; and that other examples are related, in which most severe effects, resembling those of the worst forms of syphilis, have followed the transplantation of a tooth. In such instances, if the diseases communicated were truly venereal, they were, of course, transmitted through the medium of the milk and the secretions of the mouth; but it is not a view in which the editor places any confidence. Various statements, in the writings of Mr. Evans and the late Dr. Hennen, tend also to prove, that the matter of true chancre in one person does not always communicate to another individual a sore of the same character; that the common secretions of the genitals, in uncleanly females, will cause, in other persons who have connection with them, sores of a very anomalous and infectious nature; and that several individuals, who cohabit with a particular female that has, perhaps, merely a discharge, as ascertained by careful examination, may have, in one example, a true chancre; in a second, a superficial ulcer with elevated edges; in a third, a clap, without any sore; and in a fourth, no ulceration, discharge, nor any complaint whatsoever. These facts certainly tend to prove, that the nature of the complaint may be very considerably modified by some inexplicable peculiarity, either in the constitutions of different individuals, or in the state of the parts to which the infectious matter is applied. — Ed.

\* Obs., lib. vi. N. 21.

† Mauriceau, n. p. 100. 377. Eph. Nat. Cur., cent. iii. iv. obs. 18.

‡ Reisen, iii. p. 50.

§ The late Mr. Rose had the merit of establishing more accurate views of the nature of this Protean disorder, especially with regard to the points which are here specified. — Ed.



## GEN. VII.

## SPEC. I.

Lues syphilis.

however  
applicable  
formerly,will not apply  
now, without  
much allow-  
ance and  
modification.  
Exemplified.Hence doubted  
in France  
whether syphilis  
have any real  
existence.This opinion  
extreme and  
unfairly de-  
duced.Admitted by  
Hunter that  
syphilis is  
sometimes  
intractable  
under mer-  
cury.Hunterian pa-  
thognomonics

How far these characters may have applied to it on its first appearance in Europe, under the influence of European excitements, and when the general constitution of European nations was fresh to its virus; or how far such characters may have descended to the middle of the last century, not long after which Mr. Hunter was so deeply engaged in drawing up those masterly views of this disease which he at length gave to the public in 1786, it may be difficult to determine. But to maintain any one of these doctrines without much modification, and especially as criteria of genuine syphilis in the present day, after the wide field of experiments which has been opened to us both at home and abroad, would be the height of ineredulity. For we have hundreds, and, perhaps, thousands of proofs, that, instead of "never ceasing spontaneously," it has occasionally disappeared without any other care than that of cleanliness and a reducent diet; that, instead of being uniform and progressive in its symptoms, it has occasionally retrograded, or disguised itself under a variety of peculiarities, according to the influence of habit, climate, or idiosyncrasy; and that, instead of being only to be cured by mercury, various other modes of treatment have been quite as successful; while, in numerous cases, mercury has added to the virulence of the disorder, and introduced many of those very symptoms which have usually been regarded as indicative of its secondary stage. Insomuch that it has been almost as seriously made a question in France, whether there is any such disease as syphilis\*, as it has been in our own country, whether there ever was such a disease as plague: the former being as much resolved into local uncleanness or constitutional irritation, as the latter has been into some modification of typhus with incidental influences.

This, however, is to run from one extreme of opinion to another; and all we can fairly collect from such a collision of facts and opinions, is a confirmation of the conjecture I have already ventured to throw out, that syphilis, like many other diseases, is capable of being greatly modified by contingent or habitual concomitants, or that it has actually changed its character, and is in a progressive course of melioration.

In truth, it is well known, that Mr. Hunter himself found at times the secondary symptoms of syphilis intractable to a mercurial course, and had the candour to acknowledge as much. Dr. Adams, indeed, with all his warmth of attachment to the Hunterian code of doctrines, has given an impressive case of this very kind, in which, in spite of the mercury, the disease carried its assault from the first to the second order of parts, by which is meant the bones. But then this anomaly is accounted for by their ingeniously telling us, that, if a constitutional disposition to the disease be formed, the mercury cannot cope with it till such disposition comes into action; which seems, as Mr. Guthrie has justly observed, to mean nothing more, in plain language, than that "the disease cannot be prevented in certain constitutions from running its own course, when it may at last be cured."

Of all the profession, the medical officers of the British army

\* See the anonymous but ingenious pamphlet, "Sur la Non-existence de la Maladie Vénérienne." Paris, 8vo. 1811.

seem to have been first impressed with the expediency of re-examining and revising the established doctrines upon the subject before us, from having observed that mercury is little used in Southern Europe, especially in Spain and Portugal, and that syphilis is there suffered in a very considerable degree to take its natural course; or at most to be treated locally as ordinary sores, and constitutionally with only herbaceous diluents or diaphoretics; while the primary symptoms evidently vanish under this simple remedial course, and secondary symptoms are at times not more common, than where mercury is had recourse to and solely depended upon. Mr. Rose, surgeon to the Coldstream regiment of guards, was determined to put the question to a test, and upon such a scale as might lead to something of a decisive result. He forbore, in consequence, about the year 1815, to employ mercury for the cure of any case of syphilitic affection, or suspected to be such, among the soldiers of his own regiment; and soon sufficiently perceived, that though the cure did not advance so rapidly as under a judicious use of mercury, it nevertheless in every instance did advance; that it was not more severely followed by secondary symptoms or a syphilitic dysthesy, than where mercury is trusted to as a specific; and that, of course, it was without the risk of those mischiefs to the general health, which mercury is so well known to introduce where it disagrees with the constitution.

Having persevered in this mode of treatment, in his own opinion very successfully, for a period of nearly two years, he communicated its result to the public\*, with a long list of well diversified cases, and observations that cannot fail to make an impression on every one who reads them.

The experimental course laid down by Mr. Rose was soon adopted by others, and, on various occasions, carried into establishments which afforded ample space for a satisfactory examination. It was tried in other battalions of the Guards as well in France as at home; was introduced into the York Hospital at Chelsea, and various other hospital establishments, as at Dover, Chatham, and Edinburgh. "From these hospitals," says Mr. Guthrie, "I have seen the reports of nearly four hundred cases which have been treated with the same result, as far as regards the cure of primary ulcers; each ulcer appears to have run a certain course, which, as to extent, was much the same as in one of the same appearance where mercury was supposed to be necessary, and, at an indefinite period of time, to have taken on a healing action, and, in the greater number of instances, skinned over rapidly, leaving a mark or depression showing a loss of substance. With us, where the ulcer had the characteristic appearance of chancre, dry lint alone was generally applied to it. Where these signs were less prominent, a variety of applications were used. But there were a great number of sores, both raised and excavated, on which no application made the least favourable impression for many weeks. They did, however, yield at last to simple means, after remaining for a considerable time nearly in the same state, several of them having become sores of a large size previous to, or in, the first days of their admission. If they were ulcers without any marked appearance and

GEN. VII.

SPEC. I.

Lues syphilis.

first questioned  
by the medical  
officers of the  
British army.

Grounds of  
their doubt.

Rose's experi-  
ments in the  
Guards.

Communi-  
cation of the  
same.

Repeated on a  
large scale by  
others

in France:

York Hospital:

Dover Hos-  
pital:

Chatham:

Edinburgh:  
with like re-  
sults.

Guthrie's re-  
marks.

\* Obs. on the Treatment of Syphilis, &c. Med.-Chirurg. Trans., vol. viii. p. 319. 1817.

GEN. VII.  
SPEC. I.  
Lues syphilis.

Practice of  
Cullerier at  
Paris.

But longer  
time required  
without mer-  
cury.

Hence mer-  
cury ought not  
to be relin-  
quished; but the  
knowledge  
hereby acquired  
of great im-  
portance.

Secondary  
symptoms  
more frequent  
where mercury  
is not used.

Proportionate  
estimate.

But secondary  
symptoms  
milder when  
no mercury.

did not amend in the first fortnight or three weeks, they generally remained for five or seven weeks longer; and the only difference, in this respect, between them and the raised ulcer of the prepuce was, that this often remained for a longer period, and that ulcers possessing the true characters of chancre required, in general, a still longer period for their cure, that is, from six or eight, to ten, twenty, and, in one case, to twenty-six weeks, healing up and ulcerating again on a hardened base. Those that required the greatest length of time had nothing particular in their appearance that could lead us to distinguish them from others of the same kind that were healed in a shorter period. Neither were any of these ulcers followed by a greater number of buboes, nor did they suppurate more frequently than in the same number of cases treated by mercury. On the contrary, the ulcers were not so frequently, on the average, followed by them, neither did they so often suppurate. But this may also be attributed to the antiphlogistic means employed both generally and locally for their relief.\* And to this it may be added that M. Cullerier, the first surgeon in the Venereal Hospital at Paris, has been for years in the habit of demonstrating to his pupils the possibility of curing every kind of ulcer that falls under his notice without mercury. He usually, indeed, has recourse to this medicine *afterwards*, but for the mere purpose of guarding against secondary symptoms.

It is very candidly admitted, however, by Mr. Guthrie, that, although these experiments give the strongest proof of the possibility of curing venereal ulcers without mercury, yet that a much longer period of time is required for the cure. "I have every reason," says he, "to be certain, from former experience, that almost all these protracted cases would have been cured in one half or even one third of the time, if a moderate course of mercury had been resorted to after common applications had been found to fail."

The result of this enquiry therefore should by no means induce us to relinquish the use of mercury as of specific influence in general practice; but it is of great importance, as offering solid consolation to those, who may be labouring under the disease with an idiosyncrasy or acritude of constitution that forbids the use of this specific, and converts it into a poison, instead of receiving it as a remedy.

It is admitted, also, that the cases of secondary symptoms occur more frequently in the cure of primary symptoms without mercury than where the last has been had recourse to. Upon the former plan of treatment, Mr. Guthrie calculates the secondary symptoms to occur about once in ten times; in the latter, once in about fifty-five times. But it is singular that, in the former case, the secondary symptoms are for the most part far milder than in the latter, the bones being rarely, if ever, affected. "Insomuch," says Mr. Guthrie, "that some of my friends, of great talents and experience, have been induced from this to suppose that the greater severity of symptoms which are frequently met with have been caused by the exhibition of mercury in the first instance, which aggravated the constitutional disease." Mr. Guthrie, how-

\* Obs. on the Treatment of the Venereal Disease, Medico-Chirurg. Trans., vol. viii. p. 557.



ever, ascribes this more lenient show and course of the symptoms to the stricter antiphlogistic means resorted to in the simple than in the mercurial treatment, and endeavours to prove that mercury has no tendency to produce any such aggravation, except when injudiciously employed, or it does not harmonise with the idiosyncrasy, or actual state of the constitution.

It has been asserted, indeed, that, in Portugal, where, as we have already observed, mercury is rarely had recourse to, both the primary and the secondary appearances are much more virulent than in England or under a course of mercury: that the local ulcers are far more apt to slough and become gangrenous, and to run into that encircling phagedænic sore about the glans which has been vulgarly denominated *black lion*, and that a greater proportional number of British soldiers, and even officers, suffered irremediable injury from syphilis during the Peninsular war than are in the habit of suffering in this degree at home. These facts have been especially noticed by Dr. Fergusson in a valuable paper on the subject \*, and they are virtually admitted by Mr. Guthrie, who, however, ascribes the malignity, in every instance, to the accidental circumstances of change of climate and intemperance of habit, rather than to the absence of mercury. "I do not think," says he, "the disease which the troops contracted in Portugal was in the slightest degree more violent than the same kind of complaint at home, neither do I place the least reliance on what has been said by others about a distemper called the black lion of Portugal, which I do not believe exists. But I perfectly coincide with him (Dr. Fergusson) in opinion that the change from the climate of Great Britain to that of Portugal in the summer, with the different mode of life, does act most powerfully on our northern constitutions, and disposes strongly to inflammatory affections. It is this that rendered the same kind of wounds more dangerous to the British soldiers than to the natives, and it was to this disposition, increased by the greatest irregularity of conduct and often by intemperance, a vice the natives are not addicted to, that we were indebted for the mutilations which ensued from the venereal disease."

The following calculation of results seems to be a fair expression of the general facts, and, in the present state of the question, they are too important to be omitted. They comprise the conclusion of the same able writer's remarks upon the subject.

1. "Every kind of ulcer of the genitals, of whatever form or appearance, is curable without mercury. This I consider to be established as a fact, from the observation of more than five hundred cases which I am acquainted with, exclusive of those treated in the different regiments of guards, and which occurred in consequence of promiscuous intercourse.

2. "Secondary symptoms (and I exclude trifling pains, eruptions, or sore throats), that have disappeared in a few days have seldom followed the cure of those ulcers without mercury, and they have, upon the whole, more frequently followed the raised ulcer of the prepuce, than the true characteristic chancre of syphilis affecting the glans penis.

3. "The secondary symptoms, in the cases alluded to, amount-

GEN. VII.

SPEC. I.

Lues syphilis.

Hence the severity of these symptoms ascribed to the mercury: but erroneously; and to be accounted for otherwise.

Symptoms said to be more severe without mercury in Portugal; and to run into the sore called Black Lion:

but erroneously; and rather to be ascribed to intemperance and a hotter temperature.

General deductions.

First deduction.

Second deduction.

Third deduction.

\* Medico-Chirurg. Trans., vol. iv.

## GEN. VII.

## SPEC. I.

Lues syphilis.

ing to one tenth of the whole, have hitherto been nearly confined to the first order of parts, that is, the bones have, in two instances only, been attacked, and they have equally been cured without mercury.

Fourth deduction.

4. "As great a length of time has elapsed in many of these cases without the occurrence of secondary symptoms, as is considered satisfactory where mercury has been used, viz. from six to eighteen months.

Fifth deduction.

5. "The primary sores were of every description, from the superficial ulcer of the prepuce and glans to the raised ulcer of the prepuce, the excavated ulcer of the glans, and the irritable and sloughing ulcer of these parts. In the inflammatory stage, attended by itching, scabbing, and ulceration, they were treated, for the most part, by antiphlogistic and mild remedies; in the latter, stage, when the ulcers were indolent, whether raised or excavated, by gentle stimulants.

Sixth deduction.

6. "The duration of these stages is very different, is often increased by caustic and irritating applications, and is much influenced by surgical discrimination in the local treatment.

Seventh deduction.

7. "The last or indolent stage often continues for a great length of time, especially in the excavated chancre, and raised ulcer of the prepuce. And it appears to me that, in these particular cases, a gentle course of mercury, so as slightly to affect the gums, will materially shorten the duration of it, although in others it is occasionally of no service.

Eighth deduction.

8. "Although the secondary symptoms do for the most part yield to simple remedies, such as venesection, sudorifics, the warm bath, sarsaparilla, &c. without much loss of time; that is, in the course of from one to four or six months; yet, as in the primary ulcers, a gentle course of mercury will frequently expedite, and in particular persons and states of constitution is necessary to effect a cure: and that a repetition of it will even, in some cases, be requisite to render it permanent." \*

Wonderful impediment to the propagation of syphilis and cognate diseases in the West Indies: as established by returns to the Army Medical Board.

Proportionate occurrence in the West and East Indies.

Tables in proof of such remark.

There is yet one singular feature which remains to be noticed before we close the history of syphilis, and which, so far as I know, has never yet been fully brought before the public eye, although established by many of the best reports in the possession of the Army Medical Board; and that is, the great difference which exists in the facility with which syphilis, and, I may add, the affections that make a near approach to it, as bastard syphilis and gonorrhœa, are propagated in the East, compared with their propagation in the West Indies. These reports have been submitted to me by the friendship of the Director General; and the chief conclusion I have been able to draw from them — and it is a conclusion that Dr. Gordon, who was kind enough to go over these reports with me, has long since arrived at from the same documents — is, that every two regiments in the East Indies furnish, at least, as many cases of both genuine and doubtful syphilis as are furnished by the whole army in the West Indies.

But the following tables will give the reader an opportunity of calculating for himself, and will show that the difference is some-

\* Medico-Chir. Trans., vol. viii. p. 576. Also R. Carmichael's Essay on Venereal Diseases, and the Use and Abuses of Mercury in their Treatment, ed. 2. Lond. 1825. — Ed.

times much greater. The report from the whole of the West Indies for the year 1823 is as follows:—

Cases of syphilis unaccompanied with secondary symptoms	-	-	-	-	-	16
Doubtful or bastard syphilis	-	-	-	-	-	15
Simple buboes	-	-	-	-	-	5
Annual number of cases for the whole of the West Indies in 1823	-	-	-	-	-	36

GEN. VII.  
SPEC. I.  
Lues syphilis.  
West Indies  
in 1823.

Now, the report from the 1st or royal regiment alone, for the same year, stationed at Trincomali, gives 177 cases of syphilis, without any subdivision into genuine and doubtful.

In like manner, during a preceding year, while the 12th regiment of light dragoons furnished the following report:—

Cases of syphilis	-	-	-	-	-	-	44
Secondary symptoms	-	-	-	-	-	-	6
Doubtful ulcerated penis	-	-	-	-	-	-	5
Buboes	-	-	-	-	-	-	2
Cachexia syphiloidea	-	-	-	-	-	-	7
Gonorrhœa	-	-	-	-	-	-	26
Hernia humoralis	-	-	-	-	-	-	15
							105

First or royal  
regiment at  
Trincomali in  
1823.  
Additional  
tables.

the report for the same year, from the whole of the West Indies, gives

Cases of syphilis	-	-	-	-	-	-	41
Buboes	-	-	-	-	-	-	29
Hernia humoralis	-	-	-	-	-	-	40
							110

From the uncertainty which still prevails respecting the specific nature of several of the above affections, in the minds of many practitioners, they are returned as of a common family; and however unscientific such an arrangement may be in itself, it at least enables us to draw a more satisfactory general conclusion, as showing that none of the forms of disease which, in the widest latitude of the term, can be referred to a syphilitic origin, are here kept back.

All these diseases returned as belonging to a common family.

I was, in effect, not a little surprised at finding how few reports respecting syphilis have been sent home from the West Indies, compared with those from the East, till Dr. Gordon convinced me, from the nature of those which have been received, of the difficulty of making out any such reports whatever in particular years; and pointedly directed my attention to a remark in one of them, transmitted by Mr. Tegart, a highly intelligent inspector of hospitals at Barbadoes, as though offering an apology for the scantiness of his returns upon this subject. “One gentleman, Mr. Taylor, of much learning, and great experience, in this island, who has resided here nearly thirty years, says, that, in that long period, he has only seen two cases of primary disease. “The fact is,” continues Mr. Tegart,

But such combination more strongly confirms the remark.

Hence a frequent difficulty of making returns upon this subject in the West Indies. Illustrated from Tegart's report.



## GEN. VII.

## SPEC. I.

Lucæ syphilis.

Whence the cause of this difference.

Whether, like the plague, suppressed by temperature of great heat.

This question of no small moment.

As the inquiry may be turned to a remedial purpose.

General medical process.

Different plans and modes of treatment in almost every period.

Hence no small difficulty in arranging them.

Narcotics.

Opium.

Its great use as a palliative.

Hence has been supposed to produce a radical cure. but erroneously.

“that syphilis is almost unknown in this country :” alluding to the West Indies generally.

To what then are we to ascribe the wonderful contrast presented to us in these two colonies of the same empire? Is syphilis regulated by some such law as that of plague, which, as we have already observed, seems incapable of existing in an atmospheric temperature above  $80^{\circ}$ , or much below  $60^{\circ}$ ; and hence has never been able to obtain a footing in Abyssinia or the South of Arabia, while it has rarely appeared earlier, as an epidemy, than June or July, in our own country? or is it affected by any other meteorological influence? The question is of no small moment: for if it be either the atmospherical temperature, or temperament of the West Indies, that produces so striking and beneficial an effect upon the specific poison of syphilis, it may be found, that the best asylum we can provide, even for those who are actually labouring under the disease, and in its rankest form, is the same quarter: so that Barbadoes and Jamaica may in process of time become as general a resort for syphilitic patients, as Madeira or the south of France for consumptive.

Till we are further acquainted, however, with the cause and nature of these discrepancies than we are at present, we must continue to provide for syphilis the best means of cure we may be able to do at home. And in pursuing this object, it is not to be wondered at, from the observations already offered, that plans of very different kinds, and medicines of very different classes, should not only be had recourse to in our own day, but should have been adventured upon at all times, even when the disease may be supposed to have raged with a far greater degree of malignity than at present.

From the number and repugnancy even of those that have acquired any considerable degree of reputation, there is no small difficulty in reducing them to any thing like an intelligible classification. Yet, upon the whole, we may observe that the medicines which have been chiefly had recourse to, or have been found most serviceable in curing syphilis or arresting its progress, are narcotics, diluent diaphoretics, diuretics, drastic purgatives, and those which introduce a large portion of oxygen into the system.

Of the narcotics, recourse has been chiefly had to opium, conium, solanum, and belladonna, manifestly upon the principle of their being sedatives, and hence rendering the system irritable to the syphilitic virus. This some of them accomplish in a very considerable and desirable degree; and particularly opium, which has been mostly trusted to, and tried upon a wider scale than any of the rest. It moderates and alleviates every symptom; and, from a cause not well ascertained, may be taken in very large doses with less inconvenience in syphilis, than in almost any other disease. From its palliative effects, it has been supposed by many practitioners capable of producing a radical cure; and numerous histories to this purpose have been published by those whose judgments have been unduly prejudiced in its favour. On these histories it is not necessary to enlarge: they have been long before the world, and have called forth other trials, which have not proved equally successful. Narcotics in general, and opium beyond the rest, add considerably to the efficacy of other means, and particularly

of mercury; but of themselves they are not competent to remove the complaint, and consequently are not to be depended upon.\*

The list of warm and diluent diaphoretics that have been employed as remedies in syphilis are very extensive; but it may be sufficient to enumerate the following: mezereon, guaiacum, sarsaparilla, saponaria, bardana, sniilax, and one or two species of asclepias or swallow-wort.

All these are supposed to be serviceable by exciting a determination to the skin, and throwing off the syphilitic poison, as various other poisons are thrown off, from the surface; and in very warm climates many of them are said to operate a radical cure, though the statements to this effect are rarely such as we can depend upon.†

They have all had their day, and the only one at present in much request is sarsaparilla, of the actual amount of whose virtues it is difficult to speak with precision. Like the *lobelia syphilitica*, or blue cardinal-flower, which is a purgative plant, it owes its earliest reputation to the American tribes; and when first imported into Europe by the Spaniards, about the year 1563, it had the character of being a specific for the venereal complaint. From being extolled, however, too highly,—for it never fulfilled this character in the old world,—it has since sunk, like many other useful medicines, into a very unmerited contempt, insomuch that Dr. Cullen allows but eight lines to its history and qualities, in the course of which he tells us, that, if he were to consult his own experience, he would not give it a place in the *Materia Medica*, as he has never found it an effectual medicine in syphilis or any other disease.‡ The London College, however, have evinced a different opinion, for they have adopted it under various forms: and Professor Thomson, of Edinburgh, has been so highly satisfied with its antisymphilitic powers, that he has for some years relinquished the use of mercury altogether in favour of a mode of practice, which consists chiefly in the employment of sarsaparilla.§ Upon a very large scale, he has met with very great success; though, like Mr. Rose, he candidly acknowledges that the secondary symptoms of the disease have required a longer time to be overcome under the new treatment, than they would under a mercurial.

There is also a much more powerful objection to its use; namely, that the secondary symptoms are, in many cases, apt to return

\* As, from what has been said in the foregoing pages, every form of the venereal disease seems to admit of a spontaneous cure, without the specific influence of any medicine whatsoever, the question about opium should rather relate to its useful or injurious effects on the disease, than to its power of curing it; and if the disorder will get well of itself, when no opium is given, and will not do so when this medicine is exhibited, the conclusion must absolutely be, that opium is injurious, and prevents the cure. No doubt our author did not mean to maintain this doctrine. — Ed.

† Now, however, that the curableness of the venereal disease without any medicine, or with only such as are quite inert, and destitute of any specific power, is considered to be an established fact, the doubts here expressed concerning the subsidence and effectual dispersion of venereal complaints under a course of warm diaphoretic medicines, are quite inconsistent with the view which the author has taken of what was made out by Mr. Rose's investigations. — Ed.

‡ Mat. Med., part ii. chap. v. p. 200.

§ Edin. Med. and Surg. Journ., No. liii. p. 84.

GEN. VII.

SPEC. I.

Lues syphilis.  
Treatment.

Warm diaphoretics.

Their action  
how far useful:  
most so in  
warm climates.

Sarsaparilla  
chiefly em-  
ployed at  
present.

Estimate of its  
virtues.

Totally  
discredited  
by Cullen.

Strongly  
recommended  
by Thomson  
as capable of  
effecting a  
cure: yet less  
readily than  
mercury.

GEN. VII.  
SPEC. I.  
Lues syphilis.  
Treatment.  
A useful  
auxiliary :  
and highly  
serviceable  
where mercury  
has itself pro-  
duced disease.

soon after the new treatment has been relinquished, or other symptoms not essentially different. The fair pretensions of sarsaparilla appear to be those of a mild stimulant and diaphoretic. It is hence in many cases a useful auxiliary to mercury : but I have chiefly found it succeed in chronic cases, where the constitution has been broken down, perhaps equally, beneath a long domination of the disease, and a protracted, and apparently inefficient, mercurial process. In connection with a milk diet and country air, and with a total abandonment of mercury, I have here often found it of essential importance, and have seen an incipient hectic fall before a free use of it in a week. Its best form is the old one of the decoction of the woods, of which three or four pints should be taken daily.

Carex arenaria,  
or German  
sarsaparilla.

In France, the same plan has been long in general use, and has been found equally successful. On account of the dearness of sarsaparilla, when genuine, M. Etienne Sainte-Marie has been induced to try the *carex arenaria*, or German sarsaparilla of our old dispensaries, as Gleditch of Berlin had done before him ; and though he does not, like Gleditch, regard it as more efficacious, he affirms, after employing it for ten years, that it is at least of equal value.\*

Flammula  
Jovis.

The syphilitic poison has also been often attempted to be thrown out of the body by exciting the excretories of some other organ than those of the skin, or in conjunction with them. Thus the flammula Jovis, or upright traveller's joy, the *clematis recta* of Linnæus, which acts powerfully both on the surface and on the kidneys, is said to have been employed with great advantage, and was at one time in high and extensive estimation. It was given in the form of an infusion of the leaves ; and Dr. Stoerck, with his usual liberality, assigns it an extravagant praise, informing us that it effectually subdues all the secondary symptoms of inveterate headaches, bone-pains, nodes, ulcerations of the throat, and cutaneous eruptions.†

Lobelia  
syphilitica.

The *lobelia syphilitica* of the American Indians has a still fairer claim to notice. It is a drastic purgative, uniting something of the stimulant and narcotic powers of tobacco, to which it has some resemblance in its taste. In the simple life and inirritating diet of the American tribes, it is possible that it may have proved as successful as it is stated to have been ; but it has completely failed in Europe.

Oxygenous  
antisymphilitics.

Of the antisymphilitics, whose influence seems to depend on their being loaded with oxygen, the principal are the mineral acids and the metallic oxides.

Acids.

Nitric and  
sulphuric.  
Their preten-  
sions and  
effects.

Of the first, the nitric has chiefly been made a subject of experiment in our own country, though the sulphuric has been employed abroad.‡ Its general effects are, as we might expect them to be, tonic and sedative ; whence the appetite is increased, a greater rigidity or firmness is given to the living fibre, and a greater density to the coagulable lymph : the action of the bowels, and even of the bladder, being diminished. Besides these, it has

\* Méthode pour guérir les Maladies Vénériennes invétérées, &c. Paris, 1818.

† Libellus quo demonstratur herbarum veteribus dictam flammulam Jovis posse tuto exhiberi. Vienn. 1769.

‡ Crato. epist. v. p. 293.



a particular effect on the mouth approaching to that of ptyalism, for the gums are rendered slightly sore, the mouth and tongue become moist, and in India and other warm climates a real salivation is said to ensue. Under this change, the syphilitic symptoms assume a better appearance, and especially those that belong to the primary set; but we have no decided case, in which a perfect cure has been accomplished in our own country \*, though Dr. Scott affirms that in India this has been common. The acid he was in the habit of employing was a direct aqua regia, as already noticed in the treatment of jaundice †; and with the internal use of this he combined that of the acid bath, as there also particularly specified. His object was to effect a cure without incurring any of the evils so frequent upon a mercurial course; and to this object the proposed plan has, in his opinion, given complete success. It would have been happy for the world if this success had been permanent and universal; but the plan has since fallen in its reputation, not much less in India than in Europe.

The metallic oxides have offered a large field for experiment; and almost all the metals have been had recourse to in rotation, as copper, iron, antimony, mercury, arsenic, and even gold.

The pretensions of arsenic are certainly considerable: it forms the ordinary medicine employed in syphilis by the cahirajas, or native Indian physicians, who depend upon it as a specific. They give it in the form of white arsenic, in combination with black pepper, as we shall notice more at large when treating of elephantiasis, for which also it is esteemed a powerful remedy. The only auxiliary is a cathartic of manna dissolved in a decoction of *Nymphaea Nelumbo*.

Of the effects of any of the preparations of gold, we know but little. Many of them were in high repute formerly as a cure for various cachexies, and are said to have been used with success in syphilis. ‡ They have since been tried in France §, and also in this country. ||

Antimony, and perhaps a few other metals, are useful auxiliaries: but, in fact, the only metal, and I may add the only medicine, on which we can confidently rely for a general cure of syphilis in all its stages, in our own climate, is MERCURY.

This has been tried from an early period in almost every variety of preparation; and, provided a sufficiency of it is introduced into the system, in every variety it has been found to succeed; so that, in the present day, the peculiar form is regarded of less importance than on its first use; though we may observe, that it seems to be

GEN. VII.  
SPEC. J.  
Lues syphilis.  
Treatment.

Aqua regia,  
said by Scott  
to produce a  
radical cure in  
India.

Has not been  
found to suc-  
ceed of late.

Metallic  
oxides.

Arsenic.

Gold.

Antimony.

Mercury the  
only medicine  
to be relied on  
in every stage.  
All its prepara-  
tions succeed,  
if sufficiently  
introduced.

\* As syphilis in most of its forms, if not all, has been fully proved to admit of a spontaneous cure, we should be obliged to suppose the nitric acid to be not only useless, but an impediment to the cure, if our author's statement were substantially true. This is not, however, suspected; nor can there be any foundation for the suspicion, while Mr. Rose's facts continue to dispel various prejudices concerning the incurable nature of the disease without the aid of mercury.—Ed.

† Vol. i. Cl. i. Ord. ii. Gen. i. p. 329.

‡ Agricola, Comment. in Pappium, Niirn. 1643.

§ See the Report of A. S. Duportal, M.D., and Th. Pelletier, Apoth. Annales de Chimie, tom. lxxviii. p. 38. Delpech, Chir. Clin. 4to. 1823.

|| See a Paper by Mr. R. D. Forster, on the Employment of the Chloride of Gold and Soda in Syphilis, published in *Lancet* for Feb. 1834.

GEN. VII.  
SPEC. I.  
Lues syphilis.  
Treatment.

Its virtues and  
general action.

Seems to  
possess some  
specific in  
addition to its  
general virtues  
as an antisyphi-  
litic.

This does not  
depend on its  
being a siala-  
gogue.

Denied by  
Cullen to be  
a specific or  
antidote.

His hypothesis  
to account for  
its action.

Hence in his  
opinion it is  
only serviceable  
as an irritant  
to all the ex-  
cretories.

This view not  
sufficient to  
account for its  
salutary effects.

most rapidly efficacious in those forms that introduce the largest proportion of oxygen into the system. And as it operates chiefly, like most other medicines, through the medium of the circulation, when it once becomes mixed with the current of the blood, it is equally efficient in the cure of a recent chancre and a chronic ulceration of the throat.

Mercury is an universal stimulant, and increases the action of all the secretories at one and the same time; for it operates simultaneously on the intestines, the skin, the salivary glands, and even the bladder; though it displays itself chiefly by its action on the salivary glands. It has also, when given in moderate doses, considerable pretensions to a tonic power, though this is overwhelmed by its stimulant effects when the dose is considerably increased. It seems, therefore, to unite most of the virtues of the preceding remedies, excepting the sedative; and hence it is greatly improved by the addition of opium and camphor, which give it the quality it stands in need of.

Independently, however, of its combining in itself many of the virtues of the preceding remedies, mercury seems also to possess some specific virtue unknown to the rest; for we can associate all the general qualities by a combination of different medicines without producing the same result. Mercury, indeed, to these general qualities adds that of peculiarly stimulating the salivary glands, which the other remedies employed in syphilis do not at all, or never in an equal degree; but that its specific power as an antidote does not depend upon its being a sialagogue is clear, because, while it has sometimes excited salivation without effect, it has at other times produced a perfect cure without any salivation whatever; for, in some idiosyncrasies, the salivary glands are not affected by its irritation.

Dr. Cullen, however, who had a mortal aversion to considering any medicine in the character of a specific, denies that mercury is a specific in syphilis, as he does also that it is an antidote to the disease. It is in vain to point out to him its specific influence upon the salivary glands, or its specific action upon the mouth; he denies the whole, and contends that mercury might travel, and perhaps would travel for ever in some other direction, were it not for the friendly interposition of the ammoniacal salts of the blood, which he fancies to have a close affinity with mercury, as he supposes they have also with the salivary glands; in consequence of which, they take the mercury by the hand, and introduce the one stranger to the other\*; thus solving the difficulty like divinity in the catastrophe of a drama. The result of the whole, in the opinion of Dr. Cullen, is, that mercury cures the venereal disease, not by producing any change in the state of the fluids, but entirely by giving a stimulus to the excretories at large, by whatever contrivance it reaches them, and thus increasing the excretions, and washing out the poison from the body.

That it does this is highly probable; but this alone is not sufficient, for fresh poison is continually forming by the process of assimilation, or the conversion of some part of the fluids it comes in contact with into its own nature; since, if it were not so, and

\* Mat. Med., part II. ch. XVII. p. 443—450.

the minute drop of virus that excited the disease at first remained without any increment, there can be no question that such a general scouring of the system would be unnecessary, and that the ordinary evacuations would be sufficient to throw it off. And hence we have not only to carry away the poison that is actually present in the vessels, but to prevent the formation of new.

Now it is in this power of prevention that the specific virtue of mercury seems to consist; and this it is that renders it paramount to all other remedies in the cure of syphilis. It is not only an evacuant, but an antidote: for, as we have already seen, it quickens the action of other remedial means when united with them, and far more speedily effects a cure even by itself than any of them. By what means, however, it becomes an antidote, or exerts its specific power, we know not. The matter of a chancre, mixed up with a quantity of Plenck's gummy solution of mercury, has been applied to a sound person without occasioning either a chancre, or any other syphilitic symptoms. And it has hence been supposed that mercury neutralises the syphilitic virus, and produces a third and harmless substance; as it has been further supposed, that it is by the disengagement of the oxygen which the various preparations of mercury introduce into the system, that this effect is accomplished. All this is ingenious, and may be true; but the evidence does not come home to the conclusion. Even the experiment with chancreous matter and the mercurial solution has not been satisfactorily performed; and if the result were as here stated, the matter, while it has no power of assimilating the solution into its own nature, as it has the fluids of the human body, may only have been rendered inert by simple dilution.

[Instead of these chemical hypotheses, the belief most commonly adopted by modern practitioners is, that mercury excites a new and peculiar action in the system, whereby the syphilitic action is destroyed. This, however, is only a theory; and though it originated with Mr. Hunter, it should be regarded rather as an attempted, than a well proved, explanation of the *modus operandi* of mercury.]

We have said, that, provided a sufficient quantity of mercury be introduced into the system, the particular preparation is of no great importance. Van Swieten preferred the oxymuriate, and every one followed his example. The calcinated mercury came next into popularity, and triumphed over every other form. It was the leading article of most of the secret remedies that were sold for the complaint, and especially of Keyser's pills; the receipt for which was purchased with great formality by the French government, with an express provision not to make it public till the inventor's death.\* These pills, however, which consisted of nothing more than mercury calcinated by needlessly operose elaboration, and mixed up with manna, were found in many cases to irritate the bowels, even when united with aromatics and opiates; and hence they gradually yielded on the continent to Plenck's solution, which still holds a considerable sway.

In our own country, it is now most usual to employ the mercurial pill, or calomel, either alone or together with mercurial oint-

GEN. VII.  
SPEC. I.  
Lues syphilis.  
Treatment.

In what its  
specific virtue  
seems to con-  
sist.

This virtue how  
exercited.

Whether by a  
chemical com-  
bination with  
the venereal  
virus, or by a  
disengagement  
of oxygen.

Oxymuriate  
formerly pre-  
ferred to other  
preparations.

Afterwards  
calcined  
mercury.

Keyser's pills.

Mercurial pill.

\* Des Dragées, ou Pilules de M. Keyser. Par Richard de Hautesierck. Recueil d'Observations de Médecine des Hôpitaux Militaires, &c. Paris, 1766.



GEN. VII.  
SPEC. I.  
Lues syphilis.  
Treatment.

Calomel :  
Mercurial  
ointment.  
Large doses  
often mischiev-  
ous.  
Salivation  
not always  
necessary.

Practice of  
large doses.

By whom  
revived.

Sometimes  
rapidly  
successful.

but often  
unadvisable,  
and highly  
mischievous.

Caution  
necessary  
when em-  
ployed.

ment. Yet, whatever plan is preferred, much caution is necessary in carrying it into effect ; for the older practitioners, who employed larger doses, frequently did as much mischief to the constitution by the antidote as it had received by the infection. If calomel be employed, about two grains a day will commonly be found sufficient, guarded when necessary by a grain of opium ; and if the ointment be preferred, half a drachm of the strong mercurial ointment may be rubbed in night and morning. If the disease be not severe, or of long standing, it will not be necessary, with a little management, to produce salivation, which, in most instances, may be regarded only as a test that the system is thoroughly impregnated with the medicine : but, in chronic cases, we ought not to be satisfied without it.

In the course of the present work — and the observation is applicable to other doctrines than those of medicine — we have often seen that extremes lead to extremes : and hence, while many practitioners have been reviving the attempt to cure syphilis entirely without mercury, others have revived that of attacking it with very large doses. The last has chiefly been confined to those who have been employed in warm climates, and been friendly to the same practice in dysentery and yellow fever. In syphilis, however, they seem to have been somewhat more successful than in the other diseases, doubtless from the more decidedly specific influence of mercury over the former. The dose, with these gentlemen, is the usual one of a scruple, which in our own climate is repeated daily for three or four days in succession ; but, in warmer climates, four or even five times in twenty-four hours. In various cases, the effects on the stomach and bowels are severe, and in all cases a considerable degree of nausea is excited, and the appetite is entirely suppressed. But, upon the whole, the bowels and general system are for the most part less affected than might be supposed : ptyalism is often excited in two or three days, and a constitutional improvement speedily shows itself. So that, where the treatment does not disagree with the idiosyncrasy, the cure is rapid, and perhaps radical ; the individual being usually set at liberty in a fortnight or three weeks. But such a practice must not be attempted indiscriminately, and should indeed be used with great caution : for it has fallen to the author's lot to know of not a few instances, in which the constitution has been so completely broken down by the very onset of this energetic plan, as to require, not two or three weeks, but many months, before the patient was re-enabled to take his station in society ; to say nothing of the virulence which has been added to all the symptoms of the case, whether primary or secondary, in dyscrasies or idiosyncrasies which are hostile to the use of mercury. There can be no doubt, indeed, that a long perseverance even in small doses, under like circumstances, will not unfrequently produce as lamentable an effect. But, in this case, we can hold our hand much more easily on the first appearance of mischief.

In all cases of the use of mercury, but particularly in cases of salivation, care should be taken to avoid cold, and flannel should be worn next the skin. It is also of importance that the diet should be light and simple, as the pulse is usually accelerated, and, by a stimulating regimen, would be so much quickened as to do

serious mischief. Mr. Hunter lays no stress on this point, but it ought by no means to be neglected.

If a bubo have formed in the groin, the mercurial ointment is best rubbed in a little below it, as it would increase the inflammation if applied to the tumour itself. In about a week or ten days, the mouth will become slightly sore, when the further use and proportion of the ointment or other preparation must be regulated by the violence or duration of the complaint.

An injudicious use of mercury, or indeed any use of it, in highly irritable habits, will sometimes excite a very troublesome erythema that spreads itself in trails or patches over the whole surface; commonly, however, commencing about the genitals and lower limbs. It is accompanied with a painful tenderness and itching of the skin, and, as the erythema meanders onwards, the trails or patches first observed heal as new ones make their appearance. We have already glanced at this affection under the vesicular species of ERYTHEMA.\* Mercury must in this case be desisted from, the bowels be loosened with some gentle aperient, and the irritability opposed by sedative and mild cardiacs, as camphor, guaiacum, and sarsaparilla; and particularly by the mineral acids.

GEN. VII.  
SPEC. I.  
Lues syphilis.  
Treatment.

Mercurial  
erythema.

## SPECIES II.

### LUES SYPHILODES.

#### BASTARD POX.

THE GENERIC ULCERS INDETERMINATE IN THEIR CHARACTERS;  
SYMPTOMS IRREGULAR IN THEIR APPEARANCE; USUALLY  
YIELDING SPONTANEOUSLY; VARIOUSLY AFFECTED BY A  
COURSE OF MERCURY.

I HAVE already observed, at the opening of the present genus, that the species before us is designed to include a multiplicity of affections, which, in many of their signs, have a close resemblance to syphilis, but differ from it in the progress of the symptoms, as well as in the means that are necessary for a cure.†

Such affections are of high antiquity, far higher, indeed, than those of syphilis, and some of them appear to be glanced at in the sacred records. A few of them may perhaps have arisen in much later times, and may be arising at present.‡ By Celsus the subject is touched upon scientifically: it has been taken up in modern times by Mr. Hunter with that spirit of enquiry which peculiarly distinguished him§, and has since been pursued by Mr. Aber-

GEN. VII.  
SPEC. II.

Syphilotic lues  
of antiquity.

Subject lately  
pursued by  
Hunter and  
Abernethy.

\* Vol. ii. Cl. iii. Gen. vi.

† Many of these cases would be arranged by Mr. Wallace, as degenerations of syphilis. See his Treatise on the Venereal Disease and its Varieties, p. 60., where he enters into the consideration of what he terms the "degenerations of primary syphilis." — Ed.

‡ Pearson, Observations on the Effects of various Articles of the Materia Medica in the Cure of Lues Venerea, 2d edit. p. 53.

§ Treatise on the Venereal Disease.

## GEN. VII.

## SPEC. II.

Lues

syphilodes.

Etienne Sainte-Marie.

nethy\*, Mr. Carmichael, and various other surgeons and physiologists, with a kindred comprehension and genius: and the track, which they have traced out in England, is precisely parallel with the march which M. Etienne Sainte-Marie has of late years pursued in France, conceiving himself, according to his own account, to have been the original discoverer of these distinctions; which is the more extraordinary, since this writer, as we have already had occasion to observe, believes in the exploded doctrine of the identity of syphilis, and what is commonly called gonorrhœa.† The subject, however, is still in its embryo. Mr. Hunter considered his own remarks rather as hints for others to prosecute, than as a complete account of it. And though Mr. Abernethy has accumulated facts and cases, and ably illustrated them with observations that sufficiently establish these hints, and give something of a body to the outline, we are still in want, as we have already seen, of distinctive characters, and cannot determine, with any degree of accuracy, whether the wide group of complaints that fall within the present range of contemplation are mere varieties of a common species produced by a common poison, or distinct species dependent upon distinct poisons, as discriminable from each other as all of them are from proper syphilis.

Still open to investigation.

Hunter's pathognomonic marks of genuine syphilis.

Under the last species, we had occasion to notice Mr. Hunter's pathognomonic criteria of genuine syphilis: first, that it never ceases spontaneously; secondly, that it is uniform and progressive in its symptoms; and, thirdly, that it is only to be cured by mercury.

Called in question by late experiments.

Could this view of the disease be strictly supported, we should have a tolerably distinctive character by which to discriminate the preceding from the present species; but sufficient proof has been offered, that not one of the three points holds good with a considerable degree of modification, whether in respect to the primary or the secondary symptoms of these maladies.

Whether distinguishable by immediate and direct signs.

Very ingenious attempts have since been made to distinguish these diseases, not by their general march and mode of cure, but by their immediate and prominent signs, that of the true syphilitic chancre in the first stage, and those of the peculiar nature of the spots, the nodes, or the ulcers, in the second. But the close approach to syphilis, at times, of misaffections, whose history, when minutely investigated, has clearly proved them to have issued from other sources than syphilis, has in a great measure levelled all such landmarks, and nearly left us in extreme cases without a clue.

Chiefly so from the general history of the two diseases.

It is, after all, therefore, rather from the general history of the different examples in all their bearings, than from the individual symptoms, that we can alone arrive at any sound or satisfactory means of referring them to a syphilitic or a different origin. If we can strictly rely upon the assertion, or know, as a fact, that there has been no impure connection; if we cannot perceive, that there has been any primary ulcer; if we find that the symptoms, whether primary or secondary, readily give way spontaneously, or by other remedies than mercury; or if we have proof, from the first, that they are exasperated by this last medicine, whatever be the ap-

\* Surgical Observations on Diseases resembling Syphilis. Lond. 1810.

† Méthode pour guérir les Maladies Vénériennes invétérées, &c. Paris, 1818.



proximation of such symptoms to those of genuine syphilis, we may rest pretty well assured, that the disease is syphilitic, rather than syphilitic lues. In the first case, indeed, unquestionably so, and nearly unquestionably so in the second and third.

It is well known, that constitutional derangement, in an irritable habit or idiosyncrasy, will often follow from other local causes of various kinds, and often from what is ordinarily of very slight import. It is hence that the general health in some persons suffers from such cutaneous eruptions as rose-rash, herpes, or itch. Gonorrhœa has perhaps at times, as we have already remarked, affected the constitution in like manner, and even thrown over the skin spots that have been mistaken for those of genuine syphilis. And there is hence reason for believing, that even an incidental and unspecific irritation of the prepuce or the glans may, in the same way, occasionally so far simulate the march of the same disease, as to exhibit a very close semblance to the raised ulcer, or the excavated chancre, or even the phagedænic slough; or, passing by these first symptoms, that it may mimic as closely those of the second stage of the disease. And as it is now pretty generally admitted on all hands, that morbid and irritative secretions of various kinds, independently of those of syphilis or even gonorrhœa, are thrown forth and accumulate in the sexual organs of contact, we can trace a variety of sources of both local and constitutional affection, which, issuing from the same seat, may assume something of a family character; to say nothing of those more wonderful resemblances of the secondary symptoms of syphilis, which have sometimes been found to occur without any previous local contagion, and in the most unspotted purity of single life.

A consideration, therefore, of such diseases, or varieties of diseases, as are thus found to approximate the general character of syphilis, though issuing from sources widely distinct, and possessing in the midst of such approximation a few discriminative marks, perhaps at all times and under all circumstances, however they may hitherto have eluded the prying eye of the pathologist, is evidently called for; and it is the object of the present subdivision to embody them, as far as the footsteps of observation will at present allow.

We have thus far, however, followed them into their extremes, in which alone their symptoms appear merged in those of syphilis; for, in the greater number of cases, a distinction is not very difficult, either in the local, or the constitutional attack.

In illustration of these remarks, I might refer to the observations of those who have been attentive to the subject on a large scale; but I refer more particularly to the collection of cases, which Mr. Abernethy has printed in the work already adverted to.

The disease ordinarily commences with local symptoms, though not always: but the local symptoms have a less resemblance to those of genuine syphilis, than the constitutional by which they are succeeded. A few foul and highly irritable sores are unexpectedly discovered on the genitals, commonly larger than chancres, and less thickened and indurated, about the size of a sixpence, and frequently sprouting with fungous granulations. Rarely, but very rarely, they have the guise of a true chancre: so rarely, indeed, that, of the twenty cases contained in Mr. Abernethy's book, the

GEN. VII.

SPEC. II.

Lues  
syphilodes.Constitutional  
symptoms of  
like kind often  
from various  
local causes.Sometimes  
without local  
disturbance of  
any sort.Such cases to  
be arranged  
distinctly from  
those of ge-  
nuine syphilis:and hence the  
present species.Such close  
resemblances,  
however, only  
in extreme  
cases of the  
present species.  
Illustrated.General  
description.Proper chancre  
rare.

GEN. VII.  
SPEC. II.  
Lues  
syphiloides.

fifth is the only one that answers to this description. These are sometimes succeeded by buboes, and sometimes not. And where buboes take the lead, they run their course more rapidly, and with more violent inflammation, than in the true disease, and spread to a greater number of circumjacent glands. These mostly, if not always, heal by the ordinary means without mercury, or constitutional symptoms of any kind. But not unfrequently, in a few weeks or months, they are followed by a soreness and ulceration of the tonsils, copper-coloured spots over the body, and nodes or swellings of the periosteum in various bones; and sometimes these symptoms change their order of succession, or appear single.

Constitutional  
symptoms  
sometimes  
take the lead.

In a few instances, the constitutional symptoms take the lead and the local follow, of which Mr. Abernethy's fourth case affords an example. The patient here perceived, first of all, a small ulcer on the breast near the nipple, after having suckled a nurse-child about four months. It was of the size and shape of an almond, and was ascribed to the child's having a sore nose and lips. A gland in the axilla soon swelled and subsided; but, in about two months, the patient had a severe febrile attack, accompanied with a sore throat: from this she soon recovered, but had shortly afterwards a copper-coloured eruption scattered over the body; and upon the disappearance of this, white blisters about the pudenda, which gave her pain in walking. About a week afterwards, her husband found a sore on the penis covered by a black scab, of about the size of a sixpence, with a base neither hard nor thick, but with the surrounding skin much inflamed. Another formed in the course of the lymphatics towards the groin: the inguinal glands enlarged, and one of them suppurated; and an eruption of a papulous erythema, ushered by a few febrile symptoms, followed in about three weeks. The sores were twice touched with lunar caustic, and, as well as the bubo, were afterwards washed with calomel in lime-water: they gradually healed. Both patients recovered, the wife with little assistance from mercury, having taken only a few compound calomel pills with small doses of nitric acid; the husband without mercury altogether, except that a dose of calomel was once administered with other aperient drugs as a purge.\*

\* These cases resemble some others quoted by the author under the preceding species as syphilitic; but against which inference the editor has mentioned a few considerations, which occurred to him at the time of reading them. With regard also to the present examples, set down as syphiloid, the conclusion that they were not venereal cannot be maintained by the mere fact, that they got well with little or no mercury; for, as already explained, all forms of the venereal disease are generally curable without mercury, though this often accomplishes the cure with greater expedition, and diminishes the frequency of secondary symptoms. When we read in Mr. Abernethy's *Observations on Diseases resembling Syphilis*, p. 44., that "the fictitious disease, in appearance, so exactly resembles syphilis, that no observation, however acute, seems to be capable of deciding on its nature;" and when we find him admitting, at p. 54., that all his reasoning is founded "upon the presumption, that diseases which spontaneously get well are not syphilitic," we are compelled, in the present more accurate state of our knowledge upon the latter point, to confess that Mr. Abernethy completely failed in making out any peculiarities in his cases to justify their being denominated *pseudo-syphilitic*. When we are told of a disease being exactly like syphilis in appearance, we ought first to be informed what is the precise appearance of syphilis itself; for it presents itself in so many shapes, and has so many varieties, or degenerations



In all these cases, we meet with a virus that seems to be more active and irritating than that of genuine syphilis, but which, while it pursues, though with much irregularity, the same general path, runs through its course much more quickly, and is more effectually coped with by the natural strength or remedial instinct of the constitution. And hence, all that we are here called upon to do in the way of treatment is, to support the general vigour, and second the instinctive effort. This is best to be accomplished by tonics and gentle stimulants, and, where necessary, by sedatives. The mineral acids are the best means of supplying the first intention; camphor, the decoction of the woods, and the compound calamel pill, where small doses of mercury do not irritate, the second; and opium, the third: though to this last it will rarely be necessary to have recourse at all.

The distinction between these affections and genuine syphilis is frequently difficult, but of importance: since, as a full use of mercury seldom seems to do good, and often does serious mischief in the former, such a plan has a chance of overwhelming the constitution with a second disorder, instead of freeing it from a first.

To this family of maladies we are probably to refer the disease which, for a century or two, has been known in Scotland by the name of *SIBBENS*, or *SIVENS*, literally *rubula*, or *raspberry eruption*; and which seems to be a variety of *lues*, rendered hybrid by passing through a constitution already contaminated with genuine *RUBULA* or *yaws*. The local symptoms have a much nearer resemblance to those of *bastard pox* than of genuine syphilis; but in its constitutional progress, after the ordinary affection of the fauces, the disease has a tendency to throw forth, over the surface, an eruption of tubercles, which speedily degenerate into fungous ulcers resembling *yaws*, rather than an eruption of copper-coloured spots: which tubercles sometimes show themselves also in the throat itself. The constitutional disease spends itself chiefly on the surface, and the bones are rarely affected. With these exceptions, we may agree with Dr. Gilchrist\*, and Mr. Hill of Dumfries†, that it has not a symptom which does not accompany the *lues venerea* (meaning syphilis) through all Europe; that both are equally infectious; both only communicated by sexual intercourse or other familiar contact; and both beneficially treated by mercury, which, they affirm, is the only remedy to be depended on. Mr. Hill tells us, that it was introduced into the vicinity of Dumfries, about the year 1772, "by some pocky soldiers, who, to prevent their debauching in town, were disposed through the neighbouring villages." Even upon his own showing, however, a much looser and blander exhibition of mercury, than is sufficient for the cure of

GEN. VII.

SPEC. II.

*Lues syphilodes.*  
Syphilodic virus more active and irritating than that of syphilis, but more effectually opposed by the natural powers of the constitution.

Hence mercury in full doses needless or mischievous.

Sibbens related to the present group of diseases.

Its nature explained.

First appearance at Dumfries.

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as Mr. Wallace terms them, that they form a very obscure and complex subject. Frequently no judgment of any value can be given about the nature of a sore, suspected to be venereal, merely from the look of it, without any reference to other particulars in the history of the case. On this point there are some interesting remarks in Mr. Wallace's *Treatise on the Venereal Disease*, p. 84. et seq. — Ed.

\* Account of a very infectious Distemper, &c.

† Cases in Surgery; to which is added an Account of the Sibbens.



GEN. VII.

SPEC. II.

Lues

syphilodes.

Mild adminis-  
tration of  
mercury alone  
necessary.

a confirmed syphilis\*, will effect this in sibbens; for he adds, that, "by the employment of a mild preparation of this metal, he has cured numbers without confining them to their houses even in frosty or snowy weather." It is probable, therefore, that sibbens might be eradicated by other means as well; but these gentlemen, notwithstanding the peculiarity of many of its symptoms, regarded it as a genuine syphilis; and, in consequence, did not direct their attention to any other mode of treatment.

## GENUS VIII.

### ELEPHANTIASIS.

#### ELEPHANT-SKIN.

SKIN THICK, LIVID, RUGOSE, TUBERCULATE; INSENSIBLE TO FEELING; EYES FIERCE AND STARING; PERSPIRATION HIGHLY OFFENSIVE.

GEN. VIII.  
Origin of the  
generic term.

THE Greeks denominated this disease ELEPHAS, or ELEPHANTIASIS, because the skin of persons affected with it resembles that of the elephant in thickness, ruggedness, insensibility, and dark hue. Thus applied, therefore, the term imports *elephant-skin*: in the same manner as the same national school denominated dandruff pityriasis, or *bran-skin*, from the skin, under this disease, resembling branny scales; and another sort of scaly malady, ichthyiasis, or *fish-skin*, from the resemblance of the skin, when thus affected, to the scales of fishes. There are, however, two diseases of a very different kind, which occur in the translations of the Greek and Arabic writers under the name of elephas, elephantia, or elephantiasis; that immediately before us, and the thick leg of Barbadoes and other hot climates: and as the former of these has also, by many of the Arabian writers, been called lepra, or leprosy, and especially black leprosy, though as distinct from genuine leprosy as it is from the thick leg; and as the common term lepra has been continued in the translations of such writers, and copied from them by writers of our own times, an almost impenetrable confusion has been thrown around the whole of these diseases; and they have, even by modern writers, been strangely huddled together, and contemplated as mere modifications of one and the same malady, or as having some other connection which does not in reality exist.

Two diseases  
possessing the  
same name:  
which has also  
occasionally  
been applied  
to leprosy.

Whence great  
confusion  
among the  
writers.

The author  
applied to by  
Bateman to  
examine and  
settle the  
question.

My attention was particularly called to this subject several years ago by an application from Dr. Bateman, who was then preparing his work on Cutaneous Diseases for the press, to assist him in unravelling it from the thorny maze in which it was at that time enveloped; and as the following letter from him, written in conse-

\* When it is recollected, that the venereal disease does not absolutely require mercury for its cure, but may be cured without it, the criterion here adverted to must be extremely fallacious. — ED.

quence of my acceding to his request, shows the real difficulty of the case, and is highly creditable to the activity of his mind, the reader will be obliged to me for introducing it.

GEN. VIII.  
Elephantiasis.

"In order to give you the least trouble possible, in the research which you were good enough to promise to make for me this morning, I wish to state, in a few words, the object of my enquiry. I believe the proper tubercular *elephantiasis* of the Greeks was called *juzam* or *aljuzam* by the old Arabians (*dsjuddam* and *madsjuddam* by the moderns, according to Niebulr.\*)

Bateman's  
letter to the  
author.

"If so, do the other Arabian writers also designate the proper elephantiasis, by the same appellation?—For instance, is it used by Haly Abbas? †

"Again, what is the Arabic term applied to the THICK LEG (which most of the translators call *elephantiasis*, but which the translator of Haly Abbas calls *elephas*, thus distinguishing it from *elephantia*)?—The *thick leg* is described by Haly Abbas ‡, by Avicenn §, by Rhazes ¶, and by Avinzoar. ¶ The translators of the other works in these places use the word *elephantia*.

"Thus, the proper *elephantiasis* is called *elephantia* by (the translator of) Haly Abbas, and *lepra* by (the translators of) Avicenn, Rhazes, and Avinzoar. And the *thick leg* is the *elephas* of the former, and the *elephantia* of the latter. My chief enquiry is, whether the difference is only among the translators, or whether there is likewise a want of uniformity in the nomenclature of the original writers.

"En passant, I may observe, that some farther confusion has arisen among the translators, respecting another *leprous* disease, as it has been called, which the Arabians seem to have considered as having some affinity with the proper elephantiasis (*juzam*), but yet is materially different in its symptoms; and which they have denominated *baras* or *barras*, and *albaras*, and which appears to accord accurately with the *leuce* of the Greeks, and the *vitiligo* (species 3.) of Celsus. If the Hebrews did not apply the term (translated) *leprosy* to several affections of the skin (such as the scaly *lepra* Græcorum, the psoriasis of Dr. Willan, and the *leuce*, which I suspect they did); this *leuce* or *baras* would seem to be the *unclean* leprosy described in Leviticus, chap. xiii.\*

"If your knowledge of the oriental languages will enable you, together with your knowledge of these diseases, to disperse some of the thick mist in which the translators have enveloped them, I should be exceedingly glad to partake of a little of your light."

The substance of the author's reply to this letter, already given in a note to the volume of Nosology, but which ought not to be omitted on the present occasion, was as follows:—

Substance of  
the author's  
reply.

\* See Avicenn., quart. III. or lib. III. fen. III. tract. III. cap. I.

† Theoricè, lib. VIII. cap. xv., and Practicè, cap. iv. In which passages the translator has used the word *Elephantia*, and not *Lepra*, like the other translators.

‡ Theoricè, lib. VIII. cap. xviii.

§ Lib. II. fen. xxii. tract. I. cap. xvi. or xviii.

¶ Ad Alnanzor., lib. IX. cap. xiiii.

¶ Lib. II. cap. xxvi.

\*\* This is the opinion of two learned old Germans, Leon. Fuchs, in his *Paradoxa Medicinæ*, lib. II. cap. xvi.: and Gregor. Horst, in his *Epist. to Hopner*, inserted in his *Observationes Medicinales*, lib. VIII. obs. xviii. And Sennert seems to be of the same opinion, *Pract. Med.*, lib. V. part I. cap. XI.

GEN. VIII.  
Elephantiasis.  
Disease when  
first made  
known to the  
Greeks.

The Greeks became first acquainted with the elephantiasis from their casual intercourse with Egypt. To this quarter Lucretius, adopting the common opinion, ascribes its origin : —

Est ELEPHAS morbus, qui propter flumina Nili,  
Gignitur Ægypto in mediâ, neque præterea usquam.\*

High up the Nile, mid Egypt's central plains,  
Springs the BLACK LEPROSY, and there alone.

Probably de-  
rived from  
Arabia :

Arabia, however, seems rather to have been the prolific source of this terrible scourge than Egypt; if we may judge from what seems highly probable, namely, that this is the disease with which Job was afflicted in Idumea, a part of Arabia, as described in the sacred poem that bears his name under the appellation of זרעת נגע, “the stroke of the scourge,” and which affords, without question, the most ancient record in the world, composed in a mixed language of Arabic and Hebrew; and if we add to this the still more powerful argument, that the Arabic name of the disease has extended itself all over the East, and is almost the only name by which it is known in Egypt, Persia, and India, in all which regions the disorder is about equally common. Yet the Arabic name is not *elephas* or *elephantiasis*, but *juzam* (جزام) literally “disjunction, amputation,” vulgarly, indeed, and more generally pronounced and written *judam* (جدام) from (جدّ) a root which imports “erosion,” “truncation,” “excision;” evidently referring to the destructive character of the disease, and the spontaneous separation of the smaller members, as the fingers and toes, when severe in its progress.

and thence  
propagated  
over all the  
East.

Named *juzam*  
by the Ara-  
bians.

Whence con-  
founded with  
*bucnemia*, or  
the Barbadoes  
leg.

The Arabians, however, have a malady, but of a very different kind, to which THEY also give the name of *elephas*, or *elephant-affection*, in their own language (داء الفيل) *dal fil*, which is literally *morbus elephas*, and which they sometimes contract to (فيل) *fil*, or *elephas*, alone. It is the “swelled, tumid, or Barbadoes leg, of modern writers, the *bucnemia tropica* of the present system.” And, on this account, when learning, and especially medical learning, found an asylum, during the dark ages, at the splendid courts of Bagdat, Bassorah, and Cordova, and the best Greek writers were translated into Arabic, or the best Greek and Arabic into Latin, two different diseases were found to possess a like name; for the Greeks, notwithstanding that they had elephantiasis to signify *juzam*, could only translate *dal fil* by elephantiasis also. And hence arose that confusion of the two maladies which has continued to the present moment, notwithstanding the wide distinction between them, the one being a tubercular affection of the whole body, while the other is a scaly affection of only particular parts, and commonly of not more than a particular limb.

Whence leprosy  
confounded  
with the same.

The leprosy properly so called, the *leuce* (λευκή) of the Greeks, and the *baras* or *beras* (برص) of the Arabians, was, by many of the Arabian physicians, and very generally among the people, supposed, in various cases, to terminate in *juzam* or elephantiasis, as though this also was nothing more than a different stage or degree

\* De Rer. Nat. vi. 1112.



of the same disease. And hence another error and perplexity in medical study. Alsbavarius thus unites them, and they are jumbled together or explained alike in nearly all the Oriental dictionaries; in which *beras* or leprosy, and *juzam* or elephant-skin, are, almost without an exception, regarded as convertible terms. This Oriental confusion of two very different diseases was readily copied by the Latin translators, till at length, both in the East and West, *beras*, or *lepriasis*, though literally scale-skin, became a sort of family name for almost every foul disfigurement of the skin, whether tubercular or scaly, cutaneous or constitutional. And, on this account, elephantiasis and leprosy, and several other diseases even in the nosology of Linnaeus are included under the term *lepra*; all which the disciples of this school, extending a principle very widely adopted by them, ascribe to animalcules drunk in with the common beverage of water, especially the *gordius marinus*.

The author ought not to conceal Dr. Bateman's acknowledgment of this communication, and his assent to its explanation, contained in the following opening of a letter received a few days afterwards:—

"I thank you sincerely for your ready and interesting communication, which satisfactorily explains the point respecting which I was the least able to obtain satisfaction from the translators, viz. that the Arabians had applied the term *elephant* (*elephas*, according to the able translator of Italy Abbas), or *fil*, as you state, to the swelled leg. This is some apology for the appropriation of the Greek term elephantiasis (though it actually denoted a different disease) to the Arabian thick leg; but the appropriation of *lepra*, which is never mentioned by the Greeks but as a 'superficial, rough, and scaly affection,' to the tubercular *juzam*, has unfortunately misled and confused us for a thousand years."

Dr. Bateman adds, that he apprehends the term elephantiasis had also a reference to the *magnitude* and *duration* of the disease, independently of the appearance of the skin. And it is very probable, as the malady was likewise sometimes denominated *leontiasis*, that the formidable and frightful aspect of the patient labouring under it may have been hereby compared to the general exterior of both the elephant and the lion: for while Aretaeus tells us, in describing it, that "it is disgusting to the sight, and in all respects terrible like the elephant," Avicenna affirms, "it renders the countenance terrible to look at, and somewhat of the form of the lion's visage."

The necessity of that stricter investigation into the nature of genuine elephantiasis, thus anxiously desired by Dr. Bateman, will be the more obvious when the reader learns, that in the classical work of Professor Frank it is arranged as a species of *lepra*; as are also *ichthyiasis*, and various other cutaneous affections, that should take their station in distinct quarters.\*

Besides the elephantiasis of the Arabians, we have a disease of the same kind, or which seems to be of the same kind, common to some parts of Italy, and another common to some parts of Spain; both which seem, indeed, to have issued from the Arabian stock. And hence elephantiasis, as a genus, offers us the three following species:—

GEN. VIII.  
Elephantiasis.

The confusion continued by the Latin translators of the Greeks.

Bateman's acknowledgment to the author.

Elephantiasis called also leontiasis, and why.

How confounded by Frank.

Species of elephantiasis.

\* De Cur. Hom. Morb. Epit., tom. iv. p. 211. 1792.

GEN. VIII.  
Elephantiasis.

1. ELEPHANTIASIS ARABICA.

ARABIAN ELEPHANTI-  
ASIS.

2. ————— ITALICA.

ITALIAN ELEPHANTI-  
ASIS.

3. ————— ASTURIENSIS.

ASTURIAN ELEPHANTI-  
ASIS.

## SPECIES I.

### ELEPHANTIASIS ARABICA.

#### ARABIAN ELEPHANTIASIS. BLACK LEPROSY.

TUBERCLES CHIEFLY ON THE FACE AND JOINTS: FALL OF  
THE HAIR EXCEPT FROM THE SCALP: VOICE HOARSE AND  
NASAL: CONTAGIOUS AND HEREDITARY.

GEN. VIII.  
SPEC. I.

This form the  
oldest and most  
inveterate.

In a few  
regions seems  
not to be con-  
tagious, though  
hereditary:

but generally  
possesses both  
qualities.

THIS species, which is the oldest of the three, is also the most inveterate: for we do not know that the Italian species is contagious, though, like the Arabian, it appears to be hereditary; while the Spanish is, perhaps, neither contagious nor hereditary.

In some parts of the world, indeed, even the present species is said not to be contagious, though all the writers concur in its being hereditary in every quarter.\* Thus Dr. Schilling, while he admits the latter effect, asserts that it is not contagious in Surinam, and Dr. T. Heberden asserts the same of this disease in Madeira. "I not only," says he, "am a daily witness of communication between lepers and other people without the least ill consequence, but know several instances, where a leprous husband (afflicted with the Arabian leprosy or elephantiasis), married to a sound wife, has cohabited with her for a long series of years, and had several children by her, without her having contracted the least symptom of the disorder, although the children have inherited it; and vice versa between a leprous wife and sound husband."†

That the disease, however, is contagious as well as hereditary in India and Arabia we have the concurrent testimony of all the medical writers of both countries, native as well as foreign; so that there can be no doubt upon the subject. And hence the Madeira

\* Dr. Kinnis mentions two patients whom he saw in the Isle of France, and who "stood in the relation of mother and daughter. The husband of the former had been dead eight or nine years: he had long been afflicted with palsy and dropsy, to which, only two years before he died, was superadded elephantiasis. Her daughter was attacked about the time of her husband's death: she herself about two years afterwards; and one of her sons had since fallen a victim to the disease. Her father was a Frenchman, her mother and maternal grandfather Creoles, and none of them was ever affected." Another patient is stated to have inherited the predisposition from the family of his maternal grandmother, who was never attacked herself, but lost two sisters and three nieces from the disease. None of his other relations, for three generations back, were ever known to have been affected. Dr. Kinnis saw his mother, with three other children, in the best health. She and her mother were Creoles, her grandparents Europeans. See Edin. Med. Journ., No. lxxxi. p. 290. — En.

† Medical Trans., vol. i. p. 35.

and Surinam juzam should seem to be a variety of the oriental, influenced by peculiarity of climate, or some other incidental cause.

This severe malady, wherever it shows itself, is sometimes slow in its growth, and continues many years without deranging the functions of the patient, yet great deformity is advancing upon his external make. The alæ of the nose become swelled and scabrous, and the nostrils are preternaturally dilated; the lips are tumid; the external ears, particularly the lobes, are enlarged and thickened, and beset with tubercles. The skin of the forehead and cheeks grows dense and hard, and forms large and prominent rugæ, especially over the eyes; the hair generally, except on the head, falls off; the voice becomes hoarse and obscure; the external sensibility is obtunded or totally abolished, so that pinching or puncturing gives no pain. The tubercles at length begin to crack and ulcerate; ulcerations appear in the throat and nostrils; the breath is intolerably offensive; the palate destroyed; the nose falls off; the fingers and toes, from the increased depth and virulence of the ulcerations, become gangrenous, and separate, and drop off one after another. [In the cases noticed in the Isle of France, the palms of the hand were seldom tuberculated, but had a dry, smooth, shrivelled appearance, as if the fat had been absorbed from under the skin. The backs of the hands, and more particularly of the fingers, were swollen, thickened, flabby, and beset with oblong tubercles, impeding the motion of the joints. One patient had lost four toes of the right foot, excepting a single phalanx, which three of them still possessed; and another had lost two phalanxes of the little finger. In one case, the terminal bone of the great toe was exposed and dry; in another, there was a circumscribed gangrenous spot on the fourth toe; and, in most of the cases, there were open indolent sores on the backs of the fingers, the bend of the ankle joints, the soles of the feet, or about the toes; sometimes superficial, and of a red colour; sometimes foul, discharging little, surrounded with hard, irregular edges, or overgrown with morbid cuticle.\*] The mental powers suffer less than in the two other species; the dreams, however, are greatly disturbed, the manners, for the most part, morose and melancholy, and sometimes there is an inextinguishable desire of sexual intercourse.†

GEN. VIII.  
SPEC. I.  
Elephantiasis  
Arabica.  
General  
description.

Disease as  
noticed in the  
Isle of France.

\* Dr. Kinnis, Edin. Med. Journ., No. lxxxi. p. 288.

† According to Dr. Kinnis, who has given an interesting description of elephantiasis as it appears in the Isle of France, the wasting of the genitals, represented by Dr. Adam as attending the disorder in Madeira, did not take place in a single individual of the other island; "the testicles in males, and the breasts in females, being constantly of their natural size. With regard to the functions of these organs," says Dr. Kinnis, "neither the wonderful salacity ascribed to the miserable victims of this loathsome disease by some authors, nor the utter extinction of the venereal appetite, said to characterise them by others, existed in any case. One of the female patients, who had been affected with the disease only two years and a half, affirmed, that though she had ceased to menstruate from its commencement, or to experience her former sexual propensities, she had yet suffered a miscarriage about twelve months before I saw her, and continued to cohabit with the person by whom she was kept. Another was the mother of two young children, one of whom I saw at the breast: she cohabited with a black," &c. (Dr. Kinnis in Edin. Med. Journ., No. lxxxi. p. 289.) In an example detailed by Mr. Lawrence, in the Med. Chir. Trans., the testes were unnaturally small and soft; and in four cases seen by Dr. Bateman, the venereal



## GEN. VIII.

## SPEC. I.

Elephantiasis

Arabica.

Prevalent in

Norway and

Iceland.

Its appearance  
in these regions.

The disease is also known in the high northern latitudes of Norway and Iceland. In the last place, it is peculiarly prevalent, produced, as Dr. Henderson justly observes, by the rancidity of the food usually fed on, wet woollen clothes, an insalubrious air, and want of cleanliness. It is called "Likthra," or "Putrefaction:" and a hospital is established for it in each of the four quarters of the island. It seems to be here both infectious and hereditary. "In its primary stage," says Dr. Henderson, "its symptoms are inconsiderable. A small reddish spot, scarcely larger than the point of a needle, breaks out at first about the forehead, nose, corner of the eyes, and lips; and, in proportion as it increases, other pustules make their appearance on the breast, arms, armpits, which generally dry up in one place and break out in another without pain, till the disease has considerably advanced, when they cover almost the whole body, give the skin a scabrous appearance, stiffen it sometimes in shining scales, which fall off like dust, sometimes in malignant tumours and swellings. The patient in the meantime labours under lassitude of body, anæsthesia, and lowness of spirits." The miserable progress is nearly a transcript of the description just given. The patient is so worn out with fatigue and melancholy as to be often tempted to make away with himself. He surrenders one part of the body after another to the insatiable malady, "till, at length," says Dr. Henderson, "death, the long wished-for deliverer, comes suddenly and puts an end to his misery."\*

Its appearance  
and character  
in India.

Mr. D. Johnson, of the Bengal establishment, ascribes the disease in India to nearly the same causes as Dr. Henderson in Iceland. It is found principally among the poorer castes, and "attacks chiefly such people as have their feet and hands frequently in cold water or earth, such as the peasants in the low marshy countries of Bengal and Orissa, Dobys (washerwomen) and Mollies (gardeners) in the upper provinces of India; and I conceive that cold and poorness of blood cause the circulation in the extreme capillary vessels to become too languid; the consequence is, a gradual decay or depolution of these parts." This writer admits that the disease appears in hereditary descent, but, as the different trades and occupations of the natives descend hereditarily also, he has some doubt whether the latter may not be the sole cause of its appearing in successive generations, instead of a family taint.†

A peculiar  
variety of the  
disease.

There seems to be a variety of this disease, in which a tumour of a larger size than the rest seats itself in the inguinal glands, sometimes in both groins, and is subject to a regular paroxysm of inflammation once in about every fourth month, preceded by shivering, and accompanied with a smart febrile excitement. These symptoms usually subside in three or four days, and leave the tumour as before. But, not unfrequently, that on the one side or on the other, rarely or never on both sides, advances to suppuration,

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desire was lost. From the evidence collected on this point, we may conclude, with Dr. Joy (*Encyclop. of Pract. Med.*, art. **ELEPHANTIASIS**), that the affection of the mammary and seminal glands, like the femoral tumour, is at most only an occasional complication. — ED.

\* Iceland, or the Journal of a Residence in that Island, vol. i. p. 295. 8vo. Edin. 1818.

† Miscellaneous Obs. on certain Indigenous Customs, Diseases, &c. in India.

and produces a troublesome sore. Dr. Adams met with cases of this kind in Madeira, and Dr. Kinnis has since observed the same in the Isle of France\*: thus giving the disease an approach towards BUCNEMIA TROPICA.

The cure is extremely difficult, but a course of warm diaphoretics succeeded by tonics, and especially the metallic tonics, seems to have constituted the most successful plan. Hence a free use of sarsaparilla, mezereum, or guaiacum, has been found beneficial, and mercurial alteratives still more so, though salivation appears to have been uniformly mischievous. Even the lobelia has had its advocates, and, upon the ground of its proving salutary in syphilis, it has probably also been sometimes serviceable in elephantiasis. Dr. Schilling endeavours to increase the determination to the skin, by advising the use of the warm bath and gentle exercise, and embrocating the body with spirits of wine or rum, or exposing it to a vapour-bath of mastic, olibanum, benzoin, or lavender.

In India the cabirajas, or native physicians, after bleeding and purging, immediately apply to the metallic tonics, and particularly to the white oxyde of arsenic, which they give, as in the case of syphilis, and indeed of various other impurities of the blood, in the form of pills; mixing the arsenic, which, in Hindostance, is sané hya, and in Arabic, shucc, with six times its weight of black pepper into a mass with a little water; so that each pill may contain about two thirds of a grain of arsenic and four grains of pepper, which is to be taken twice a-day: and this medicine is regarded almost as a specific antidote. It has no doubt proved often successful: and I have known various cases in our own country in which it has been found equally so in the form of the arsenical solution.

In this quarter of the globe, however, Mr. Playfair has of late years revived the use of one of the species of asclepias or swallow-wort. In Europe, the *a. Vincetoxicum* was formerly in high favour as an alterant and alexipharmic, and was often denominated contrayerva Germanorum: but its virtues were not sufficient to support its character. The swallow-wort employed by Mr Playfair is the *a. gigantea*, a native of the East, and appears, from an account lately published by Mr. Robinson †, to be possessed of more active and possibly more salutary qualities. It is the *mudar* or *midaur* of Hindostan, a shrub not yet systematically arranged, but found on all the uncultivated plains of India, producing a milky juice, which is the part employed medicinally, not only in this complaint, but in various herpetic affections, by being applied to the skin.‡

The tonic found most useful by Dr. T. Heberden in Madeira, was bark, which, however, has not proved of equal success in other places, or in the hands of other practitioners; but he employed it in connection with that course of external stimulants, which has been found generally serviceable, and probably not a little contributed to its wonderful efficacy in the various cases he refers to, and particularly one of a confirmed and chronic attack. "I have," says he, "in this island experienced the use of the bark in four or five leprous patients with success. One had a confirmed elephant-

GEN. VIII.  
SPEC. I.  
Elephantiasis  
Arabica.

Medical  
treatment.

Diaphoretics,  
succeeded by  
tonics.

In India the  
metallic tonics,  
and especially  
arsenic.

Asclepias  
gigantea,  
Giant swallow-  
wort.

Mudar of  
India.

Bark in Ma-  
deira, with  
external  
stimulants.

Their success,  
as related by  
Heberden.

\* Obs. on Elephantiasis as it appears in the Isle of France. Edin. Med. Journ., Oct. 1824, p. 289.

† Medico-Chirurg. Trans., vol. x.

‡ Miscellaneous Obs., &c. By Daniel Johnson, Esq.

GEN. VIII.  
SPEC. I.  
Elephantiasis  
Arabica.  
Treatment.

iasis; the others were only ineipient, having no other symptoms than florid or livid tubercles in the face and in the limbs. The confirmed elephantiasis was attended with livid and scirrhus tubercles, which had overspread the face and limbs; the whole body was emaciated; the eyebrows inflated; the hair of the eyebrows fallen off entirely; the bones of the nose depressed; the alæ nasi tumefied, as likewise the lobes of the ears; with a suffusion in both eyes, which had almost deprived the patient of his sight. There was a want of sensation in the extremities, and a loss of motion in the fingers and toes."

For upwards of seven years, Dr. Heherden had used every medicine he could think of to relieve this patient, but in vain. Antimonials and mercurials of almost every kind; neutral salts, the warm diaphoretics, as sassafras and sarsaparilla, warm baths, and medicated baths, were alike fruitless. On May 2. 1758, he made his patient commence an electuary of powder of bark, with a third part bark of sassafras root, inspissated with syrup; and of this the quantity of a large nutmeg was ordered to be taken *twice* a-day. The patient at the same time had his arms and legs bathed with an embrocation, consisting of an ounce of lixivium of tartar and two drachms of spirit of sal-ammoniac, intermixed with half a pint of proof spirit. By the latter end of May the tubercles were considerably softened; by June 28. they were dispersed; a red scurfy efflorescence alone remaining behind, which in ten days lost its florid hue and peeled off, leaving the cuticle sound and clean. "The patient," says he, "gradually recovered the sensation in his legs and arms, and the use of his toes and fingers; the hair has grown again on his eyebrows; and the only remainder of the distemper which I can perceive is, that the nose continues somewhat flatter, from the depression of the bones. The suffusion is quite cured, and the patient is *εὐσπαρὸς καὶ εὐχρὸς*\*, of a healthy skin and colour."

\* Med. Trans., *ut supra*. Mr. Robinson represents the disease as presenting itself under two forms in Hindostan; one characterised by the dropping off of the fingers and toes, the insensibility of the skin, and the extreme torpor of mind and body; the other by tubercles, ulceration of the palate, and affections of the cartilages and bones of the face, together with the frequent occurrence of the oblong glandular tumour in the groin. The mudar, so useful in the first variety, is injurious in the second, which is benefited by arsenic. (See Med. Chir. Trans., vol. x.) Iodine might be tried both externally and internally. Rayer recommends exciting a slight degree of inflammation in the diseased skin with ammoniacal liniments, tincture of cantharides, or ointment of the hydriodate of potass. If they produce too much irritation, they are to be used alternately with the warm bath. — Ed.



SPECIES II.  
ELEPHANTIASIS ITALICA.  
*ITALIAN ELEPHANTIASIS.*

TUBERCLES CHIEFLY ON THE BODY AND LIMBS, SOMETIMES  
DESQUAMATING: GREAT TENSION OF THE SKIN: VERTIGO:  
BURNING, LANCINATING PAIN IN THE HEAD: MELANCHOLY,  
AT FIRST REMITTING, AFTERWARDS FIXED, TERMINATING IN  
ALIENATION OF MIND: HEREDITARY

For a knowledge of this species we are almost exclusively indebted to the Italian physicians, who have generally given it the name of pellagra or pelagra. The first writer upon the subject appears to have been Francis Frapolli, a physician of Milan, whose work, "In morbum vulgò Pelagram dictum," was published at Milan in 1771, and who expresses himself doubtful whether the disease, though not antecedently described, is not referred to occasionally by earlier writers, although he does not think that the pilarella, as the syphilis was called when it proved depilatory to the chin and eyebrows, was the disease in question, notwithstanding this seems to have been an extensive opinion at the time. The next tract of any note upon the subject was published at Venice in 1784, by G. M. d'Oleggio, under the title of "A Theoretical and Practical Treatise on the Diseases of Vernal Insolation, commonly called Pellagra."\* But the best account we have received of this complaint is from the pen of Dr. Jansen of Leyden, which appeared in 1788, and asserts that it is endemic in the Milanese territory.† It is, in truth, common to both the Milanese and Venetian territories, as well as to other districts widely differing in soil and temperature: and can scarcely therefore be referred to either of these sources. There is little doubt of its being hereditary, but not contagious; and it does not seem to have existed earlier than the middle of the last century.‡ It is commonly ascribed, as we have observed above, to the heat of the sun's rays § after the chill of winter, and is hence called *mal del sole*, which we have just seen was the view taken of it by D'Oleggio; while by Odoardo it is attributed to a scrofulous habit ||, and by Videmari and others, who have too much limited themselves to the nature of the eruption, to an impetiginous impurity.¶ But none of these explanations seem to rest on any very solid foundation; and, upon the whole, we have more reason for regarding it as produced by the debilitating causes of hot, confined

GEN. VIII.  
SPEC. II.  
Called pellagra  
in Italy.  
General history.

\* Tratto teoretico-pratico delle malattie dell' insolato di primavera volgarmente dette della Pellagra.

† De Pellagra morbo in Mediolanensi Ducatu endemio.

‡ Paralleli fra la Pellagra ed alcune malattie, che più lo rassomigliano, del F. Fanzago. Padova, 1792.

§ J. P. Frank, De Cur. Hom. Morb. Epit., tom. iv. p. 43. Mannh. 8vo. 1792.

|| D' una spezia particolare di Scorbuto. Venet. 1776.

¶ De quâdam Impetiginis specie, morbo apud nos in rusticis nunc frequentiori, vulgo Pellagra nuncupata, 8vo. 1790.

GEN. VIII.  
SPEC. II.  
Elephantiasis  
Italica.

air, want of cleanliness and bad diet, operating in many cases upon a diathesis hereditarily tainted. It is found chiefly among the Milanese and Venetian peasantry, whose hovels are full of wretchedness, and rarely makes its appearance till after the age of puberty. Alibert, in his "Diseases of the Skin," has denominated it, but with little accuracy, *Ichthyosis Pellagra*.\*

Description.

The first symptoms of the disease are general languor, listlessness, gloom, feebleness, and stupor in the legs, and hence unsteady walking, vertigo, and confusion of ideas. Dumeier, another writer upon the subject, extends the stupor of the legs to the entire frame, and asserts that anæsthesia is a characteristic symptom of this species.† But this assertion is not confirmed by the history of other pathologists, though the languor and inertness are often very great, as well as universal.

First stage.

These symptoms usually take place in the spring; and as the summer approaches, a sense of tension, burning, and itching is felt in every external organ except the head, followed by an eruption of rosy papulæ, scattered over the skin generally ‡, which terminate in tubercles of a shining red colour. After some days, the tubercles desquamate, and the skin appears at first red, but soon recovers its natural colour. As the summer, however, advances, every symptom commonly subsides, and the strength is renewed with the winter; but the symptoms return with increased violence with the return of the spring, and this for several years in succession. But, if the symptoms do not thus subside, they soon become

Second stage.

even on the first attack considerably exasperated, and form a second stage of the disease, in which the itching grows more pungent; the heat more fiery; the skin harder, cracked, and chapped; the debility is greater; the mental functions are disturbed generally;

Termination.

the appetite is irregular; the sleep broken with acute pain in the head and spine, soon followed by delirium. The cutaneous affection now diminishes, but the nervous symptoms are greatly augmented. The vertigo increases; the patient is sad and loves solitude, and melancholy delirium alternates with furious mania. The *tædium vitæ* is insupportable, and self-murder is a frequent consequence. Strambi remarks that those, who labour under this disease, have the greatest tendency to drown themselves, "as by an hallucination," says he, "opposite to that of hydrophobia." § Coercion is at last necessary; and a diarrhœa, dysentery, or dropsy, closes the dreadful scene, if the patient do not sink earlier from corporeal and mental exhaustion. || Dr. Holland tells us that, at

\* Description des Maladies de la Peau, p. 175.

† Baldinger, Journ., vol. xxvi. p. 9.

‡ Dr. Holland says:—"The local symptoms very generally show themselves, in the first instance, early in the spring, at the period when the mid-day heat is rapidly increasing, and when the peasants are most actively engaged in their labours in the fields. The patient perceives on the back of his hands, on his feet, and sometimes, but more rarely, on other parts of the body exposed to the sun, certain red spots, or blotches; which gradually extend themselves, with a slight elevation of the entire, and a shining surface, not unlike that of lepra in its early stage." See Med. Chir. Trans., vol. viii. p. 321.

§ De Pellagra, Observationes, ann. i. n. iii. Mediol. 1785.

|| Besides exhibiting at different periods in the same individual, many varieties in the appearances of the skin, as erysipelas, lepra, psoriasis, elephantiasis, and ichthyosis, it is liable to terminate in the production of several constitutional or

one time, in the lunatic hospital at Milan, of five hundred patients more than one-third were *Pellagrosi*\*; and he also informs us, that morbid dissections have thrown little light on the pathology of this disease; that the liver and spleen have at times evinced indurations and enlargements; and traces of disease have been occasionally seen in the intestines and mesenteric glands; but by no means constantly, and rather as effects than causes of the disorder.

The treatment needs not essentially differ from that of the preceding species. Pure air, habitual cleanliness, warm bathing, and a nutritious diet, with such tonics, whether vegetable or mineral, as best agree with the constitution, have proved most successful where the disease has not advanced beyond the reach of recovery. At Milan, the lichen Islandicus is one of the most popular remedies.

[Antimonials are also in repute, and attention is paid to the diarrhoea with which the disease is frequently accompanied. Blood-letting is rarely practised, except when mania or some local inflammation comes on. In some instances, according to Dr. Holland, the cutaneous affection forms the principal indication of the complaint for several successive years; being renewed every spring, and disappearing again in the autumn. In other cases, he says, where it has been found possible to remove the patient to a new situation and mode of life, the disease is still further arrested in its progress. "It rarely happens, however, that these means can be practically adopted; and the constitutional malady is generally so far established in the third or fourth year, that little hope remains of benefiting the patient, either by medicine, or change in the mode of life."]

GEN. VIII.  
SPEC. II.  
*Elephantiasis Italica.*

Medical  
treatment.

### SPECIES III.

## ELEPHANTIASIS ASTURIENSIS.

### ASTURIAN ELEPHANTIASIS.

TUBERCLES CHIEFLY ON THE HANDS AND FEET; CRUSTACEOUS, DESQUAMATING: CONTINUAL TREMOR OF THE HEAD AND UPPER PART OF THE TRUNK: BALDNESS OF THE SCALP, AS WELL AS OF OTHER PARTS: GLOOM AND TERROR OF MIND.

This species agrees in many of its symptoms with the *Italica*, and it is only worth while to notice the points in which they differ. Upon the whole, we may observe that all the species coincide in being founded on an exhausted constitution, in the general character of the tubercles, and in their fatal termination by

GEN. VIII.  
SPEC. III.  
How distinguished from both the preceding species.

general derangements of the system,—tetanus, chorea, epilepsy, convulsions, dropsy, melancholia, mania, marasmus, &c. "Hence," as Dr. James Johnson has observed, "we see written over the beds in the Milan Hospital, the various diseases to which pellagra forms the adjective, as *atrophia pellagrina*, *phthisis pellagrina*, *hydrops pellagrinus*, *paralysis pellagrina*, *mania pellagrina*, &c." Change of Air, or the Pursuit of Health, p. 75.—Ed.

\* *Medico-Chir. Trans.*, vol. viii. part ii. p. 326.



GEN. VIII.  
SPEC. III.  
Elephantiasis  
Asturiensis.

Description.

Forms the As-  
turian leprosy  
of Thiery and  
others ;

and the Mal de  
la Rosa of the  
Spanish writers.

dropsy, atrophy, or some other asthenic disease. The Arabian species attacks the face, the roots of the hair, and the palate-bones, before the remaining parts on which it preys are diseased, and the affection of the skin increases with the increase of the other symptoms. In the Italian species, the affection of the skin diminishes as the nervous and mental commotion augments. The pellagra also is distinguished by thick urine, double vision, and a peculiar mouldy smell of the sweat. In the Asturian species, the crustaceous tubercles are peculiarly painful, highly fetid, more deeply furrowed with cracks, and more disgusting to the sight ; attacking the head as well as other parts indiscriminately, and destroying the roots of the hair. The mind is less affected than in the last, and with melancholy and terror rather than with raving delirium.

This species constitutes the Asturian leprosy of Thiery, Vandermonde, and Sauvages ; but genuine leprosy is rarely a constitutional complaint ; and the present is its proper place. As the tubercles desquamate, the skin appears of a glossy leprous red, and the disease is hence called by the Spaniards Mal de la Rosa.

The causes are, extreme poverty and its attendants, filth, bad diet, and crowded unventilated rooms in the deep and swampy valleys of the country, almost impervious to the rays of the sun ; and hence the medical treatment and general regimen, recommended under the preceding species, will here afford the fairest promise of success.

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## GENUS IX.

### CATACAUSIS.

#### CATACAUSIS.

#### GENERAL COMBUSTIBILITY OF THE BODY.

GEN. IX.

Rarely noticed  
by medical  
writers hitherto.

Only one  
known species.

THE peculiar state of the constitution, which lays a foundation for the present genus of morbid affections, is of a very singular and mysterious kind ; and the only medical work that has referred to it in our own country, antecedently to the author's own system of Nosology, is Dr. Young's Medical Literature, in which it is noticed under the Greek name here applied to it, derived from *κατακαλι*, "exuro." One species only has hitherto been discovered as belonging to it ; which, from the peculiar habit under which it occurs, may be distinguished by the name of

1. CATACAUSIS EBRIOSA.

INEBRIATE CATACAUSIS.

# SPECIES I.

## CATACAUSIS EBRIOSA.

### INEBRIATE CATICAUSIS.

THE LIVING BODY INFLAMMABLE IN CONSEQUENCE OF A LONG AND IMMODERATE USE OF SPIRITUOUS LIQUORS: THE COMBUSTION EASILY EXCITED, OR SPONTANEOUS.

IN this wonderful malady, the art of medicine can be rarely of any avail: since the mischief is, in almost all instances, only to be discovered after a cessation of life, and the destruction of some part of the body by an actual flame, or fire, in many instances spontaneously issuing from its surface. There may be some difficulty in giving credit to so marvellous a diathesis; yet examples of its existence, and of its leading to a migratory and fatal combustion, are so numerous and so well authenticated, and press upon us from so many different countries and eras, that it would be absurd to withhold our assent. In almost every instance, the combustion seems to have taken place in females, advanced in life, and immoderately addicted to spirituous liquors.\* In some cases, the heat that has set them on fire appears to have originated in themselves; in others, to have been communicated by a stove, or a candle, or a stroke of lightning†; but in no case has the fire or flame, hereby excited in the body, been so powerful as essentially to injure the most combustible substances immediately adjoining it, as linen or woollen furniture. The body, in several instances, has been found actually burning, sometimes with an open flame flickering over it; and sometimes with a smothered heat or fire, without any open flame whatever: while the application of water has occasionally seemed rather to quicken than check the igneous progress.

This is the more extraordinary, as the human body, in every other state we are acquainted with, whether of health or disease, is scarcely at all combustible of itself, and cannot be reduced to ashes without the assistance of a very large pile of fagots or other fuel, as universal experience in this very ancient mode of sepulture, and the history of martyrs who have been condemned to the flames, abundantly testify.

The event has usually taken place at night, when the sufferer has been alone; and has commonly been discovered by the fetid, penetrating scent of sooty films which have spread to a considerable distance; the unhappy subject has, in every instance, been found dead, or more or less completely burnt up; the burnt parts being reduced to an oily, crumbly, sooty, and extremely offensive matter. "I confess," says M. Pierre-Aime-Lair‡, "that these accounts at first appeared to me to be worthy of very little credit; but they

GEN. IX.

SPEC. I.

The art of medicine seldom available.

Disease not credible if it were not well authenticated

General description.

Usually occurs at night.

How discovered.

The affected person found dead.

\* Bartholin, Act. Hafn. t. obs. 118.

† Fouquet, Journ. de Med., tom. lxxiii.

‡ Journ. de Physique, an. viii.

GEN. IX.  
SPEC. I.  
Catacausis  
ebriosa.  
Authorities  
appealed to.

Subject ought  
not to be  
omitted in a  
course of  
medical study.

are presented to the public as true, by men whose veracity is unquestionable. Bianchini, Maffei, Rollin, Le Cat, Vicq d'Azyr, and other men distinguished by their learning, have offered certain testimony of the facts. Besides, it is not more surprising to meet with such incineration, than a discharge of saccharine urine, or an appearance of the bones softened to a state of jelly."

Those who are desirous of pursuing this curious subject farther, and of entertaining themselves with the very extraordinary histories connected with it, as also of examining the various hypotheses by which they have been accounted for, may consult the Philosophical Transactions\*, which contains numerous examples; as also a variety of foreign journals of established reputation, referred to and cited in the running commentary to the author's volume of Nosology.† We have not space to enter into these separate cases, though many of them are highly interesting; but in a general course of medical study, the phenomenon ought not to be passed by: it forms one of the most curious links in the long chain of morbid affections, and equally demands our attention as pathologists and physiologists.

## GENUS X.

### PORPHYRA.

#### SCURVY.

LIVID SPOTS ON THE SKIN FROM EXTRAVASATED BLOOD: LANGUOR, AND LOSS OF MUSCULAR STRENGTH: PAINS IN THE LIMBS.

GEN. X.  
Signification  
of the generic  
term; and  
reasons for its  
adoption.

The Latin term  
purpura used  
indefinitely.

PORPHYRA is in Greek what purpura is in Latin, literally, "the purple or livid disease." The latter has been very generally made use of; but the former is here preferred on two accounts. First, that of technological simplicity,—the names of the genera under the present system being uniformly of Greek origin. And, secondly, because the Latin purpura has been used in senses so numerous, so vague, and unconnected, that at this moment it conveys no definite idea whatever. "The term purpura," observes Dr. Bateman, most correctly, "has been employed by different writers in so many acceptations, that some ambiguity would perhaps have been avoided by discarding it altogether; for some authors have used it as an appellation for measles, others for scarlet-fever, for miliaria, strophulus, lichen, nettle-rash, and the petechiæ of malignant fevers; while formerly it was applied to petechial spots only by Riverius, Diemerbroeck, Sauvages, Casson, and some others." ||

\* See especially vols. xliii. xliv.

† Ploucquet, Littérat. Méd. Dupont, de Corporis Hum. Incendiis Spontaneis.

‡ Synops. of Diseases, p. 102.



The usual synonym for purpura is *scorbutus*; but to this there are still stronger objections. For, as a term, it is neither Greek nor Latin, nor any language whatever; but an intolerable barbarism, derived, as is commonly supposed, from the German compound *schar-bocke*, literally "aggregate-pox," "cluster-pox;" but more likely from *scharf-pocke*, "violent," or "vehement pox;" or *schorfpocke*, "scurf," or "scurvy-pox," to which the inventor has endeavoured to give a sort of Latin termination. Independently of which, *scorbutus*, as employed at present, only indicates a particular species of scurvy; and could not therefore, without imprecision, be used in a generic signification.

The sense here expressed by *porphyra*, runs, as nearly as possible, parallel with the range assigned by Dr. Willan to purpura. "With Riverius and some other authors," says he, "I propose to express by the term *purpura* an efflorescence consisting of some distinct, purple specks and patches, attended with general debility, but not always with fever." And again: "Cases of the *purpura* seem to have been studiously multiplied in periodical publications, and in medical or surgical miscellanies. I consider it under all the forms described as pertaining to the scurvy, though it is *not always* attended with sponginess of the gums, and a discharge of blood from them, according to the definition of *scorbutus* in nosology." \*

*Porphyra*, in its present signification, is intended to include every description of petechial eruption and spontaneous ecchymosis, not dependent on fever as their cause, in which case these affections are only symptomatic.

The genus, thus explained, will associate under its banners the three following species:—

1. PORPHYRA SIMPLEX.

2. ———— HÆMORRHAGICA.

3. ———— NAUTICA.

PETECHIAL SCURVY.

LAND-SCURVY.

SEA-SCURVY.

## SPECIES I.

### PORPHYRA SIMPLEX.

#### PETECHIAL SCURVY.

SPOTS NUMEROUS, BUT SMALL AND FLEABITE-SHAPED: CHIEFLY IN THE BREAST, ARMS, AND LEGS; PALENESS OF VISAGE.

PULCPOSE or petechial spots were at one time supposed to be, in every instance, the result of debilitating and putrid fevers. Riverius is, perhaps, the earliest author who distinguishes between simple petechiæ, and petechial fevers. Vascular debility or relaxation is, however, the predisposing cause in both cases.† They necessarily, indeed, accompany each other, and, wherever they exist in any considerable degree, they lay a foundation for those minute extravasations which constitute the present species; and

GEN. X.  
*Porphyra*.

Ordinary term  
*scorbutus*.

Objections to  
its use.

The definition  
offered nearly  
parallel with  
the *purpura* of  
Willan.

Its range more  
fully stated.

GEN. X.  
SPEC. I.

Formerly  
supposed to  
originate alone  
from putrid  
fevers, till  
other causes  
were shown  
by Riverius.

\* On Cutaneous Diseases, Ord. III. p. 453.

† Plumb, Practical Treatise on the Diseases of the Skin. p. 100. 8vo. 1824.

GEN. X.

SPEC. I.

Porphyra  
simplex.In all cases  
debility and  
relaxation the  
predisposing  
cause.Usual remote  
causes.Remote cause  
sometimes un-  
known.

Illustrated.

The above case  
probably refer-  
rible to debility.

which may take place either from occasional ruptures of the weakened coats of the minute subcutaneous blood-vessels, in consequence of their being incapable of resisting the impetus of the blood that flows through them; or from the mouths of many of them, which should give forth only the finer and limpid particles of the blood, yielding and allowing an exit to the red globules.

Both these may follow atonic fevers; but the usual remote causes, in the species before us, are severe labour with innutritious or spare diet, and especially with impure air; an impoverished state of the system from a sudden and profuse loss of blood; a sedentary and inactive life, or some chronic and exhausting disease, by which the general strength has been broken down. To these Riverius adds suppression of the catamenia, and a certain mild ebullieny of the blood in boyhood — *leven quendam sanguinis ebullitionem* — a phrase, apparently importing an excess of sanguineous temperament; from both which, he tells us, he has frequently seen the disorder originate. And he is confirmed in the last by a case, hinted at by Dr. Perceval in his manuscript comment on the author's Nosology, in which he observes, under the present species, that "in a young lady of a full habit, and florid complexion, if the skin of the face or neck were touched, even slightly, blood oozed from the pores."

The disease seems also to be produced at times by some unknown cause; of which Cullen has given a striking instance in his *Materia Medica*. "The patient," says he, "was a woman, who had lived very constantly upon vegetable aliment, and had not been exposed, so far as could be judged, to any febrile or putrid contagion; and yet, without a feeling of any other disorder, was affected with numerous petechiæ over the whole surface of her body. After these had continued for some days, without any symptoms of fever, she was affected with swelled and bleeding gums, with fetid breath and much thirst; and, in the course of a week or two more, almost every symptom of a putrid fever came on, and in a few days proved fatal."

It is possible in this case, that the brain may have lost its energy, and the blood become impoverished by too low a diet, though the history is not given with sufficient fulness to speak with much decision upon this point. The fever was evidently produced by the irritability of weakness, and necessarily ran into a typhous type from the same cause.

The disease, as it commonly shows itself, appears under two forms, which may thus be described as varieties: —

 $\alpha$  Pulicosa.

Simple pulicose scurvy.

 $\beta$  Urticaria.

Nettle-wheal scurvy.

Exhibiting from the first a pulicose  
or fleabite appearance.The fleabite spots preceded by red-  
dish, rounded, and nettle-sting  
wheals, but without the nettle-  
sting itching; fugacious and mi-  
gratory. $\alpha$  P. Pulicosa.  
Simple pulicose  
scurvy. $\beta$  P. Urticaria.

The FIRST VARIETY is not only produced by debility, but attended with languor and pains in the limbs, and chiefly affects women and children, in consequence of their greater laxity of fibre.

The SECOND VARIETY may possibly be accompanied with more

constitutional affection; for there is usually a loss of appetite, and an œdematous swelling of the hands and ankles, while the spots are brighter at night and darker in the day, evidently proving great irritability in the capillaries, and especially towards the period of the natural evening paroxysm of fever. This variety often continues for five or six weeks.

Better diet, freedom from hard labour, pure air, sea-bathing, the mineral acids and other tonic medicines, afford a pretty certain process of cure.

GEN. X.  
SPEC. I.  
Porphyra  
simplex.  
Nettle-wheat  
scurvy.

Medical  
treatment.

## SPECIES II.

### PORPHYRA HÆMORRHAGICA.

#### LAND-SCURVY.

SPOTS CIRCULAR OF DIFFERENT SIZES; OFTEN IN STRIPES OR PATCHES, IRREGULARLY SCATTERED OVER THE THIGHS, ARMS AND TRUNK: OCCASIONAL HÆMORRHAGE FROM THE MOUTH, NOSTRILS, OR VISCERA: GREAT DEBILITY AND DEPRESSION OF SPIRITS.

THIS species, the morbus maculosus Werlhofii of the German writers\*, is sometimes marked by febrile paroxysms, with variable intervals, but usually occurring in the evening. It has no regular or stated termination. Dr. Willan has found it run on, in different cases, from fourteen days to a twelvemonth and upwards. It is met with at every period of life, but chiefly affects persons of a weak and delicate habit, often children, principally women.

GEN. X.  
SPEC. II.

The precursive symptoms are lassitude, faintness, and pains in the limbs, so that business, or even company, is found fatiguing. After this, there are often shiverings, nausea, and vomiting. The purple eruption, for the most part, appears first on the legs, and afterwards, at irregular periods, on the thighs, arms, and trunk of the body; the hands and face generally remaining free. The spots, however, are frequent on the interior of the mouth, and particularly the tonsils, gums, and lips, where they are sometimes raised or papulated. It is here the first hæmorrhage commonly issues, though, as the disease advances, blood flows also from the nostrils, lungs, stomach, intestines, and uterus; all which organs, together with the heart, are sometimes found studded with spots on their surface, on examination after death.† The hæmorrhage is often profuse and cannot easily be restrained, and is accompanied with anasarca swellings. It sometimes precedes the purple spots, but more commonly takes place a few days afterwards. It is this rapid erosion, or ulceration of the blood-vessels, and consequent discharge of blood, often accompanied with diarrhœa or dysentery, where the intestines associate in the complaint, by which land-scurvy is chiefly distinguished from sea-scurvy, and acquires the

General  
description.  
Precursive  
symptoms.  
Diagnostics.

\* Geschichte eines glücklich geheilten Morbus Maculosus Werlhofii, von Dr. Marquett, &c. Magdeburg.

† Edin. Med. and Surg. Journ., July, 1802.



GEN. X.

SPEC. II.

Porphyra  
hæmorrhagica.Extent of  
morbid appear-  
ances in Dr.  
Fairbairn's  
case.

distinctive name of *hemorrhagic*; since, though these symptoms may also occur in the latter, they do so rarely, except in the last stage of the complaint.\*

[In the dissection of a highly interesting case recorded by Dr. Fairbairn the sides of the neck and upper parts of the chest were found swollen and livid, with a feeling of crepitus and considerable œdema over the trunk. In some places the cellular and muscular textures of the neck and chest were injected with blood and emphysematous. The thorax contained about a pound of a fluid resembling blood, of a very dark colour and viscid consistence. The lungs, bronchial tubes, and trachea contained a large quantity of bloody serous fluid, and, beneath the internal coat of the latter, there was a slight effusion of dark venous blood. Between the folds of the anterior mediastinum and of the pericardium, a considerable quantity of very dark blood was effused in the cellular texture. Under the lining of the cavities of the heart, and under that of the aorta, there was a large bloody effusion. The floating abdominal viscera presented a dark leaden colour, and on the intestines were a few petechiæ. The inner coat of the stomach, towards the pylorus, was also thickly studded with them. The liver, spleen, and right kidney were softer than natural.†]

Remote causes.

The most usual remote causes of the present, as of the preceding species, are poor diet, impure air, anxiety of mind, and a sedentary mode of life: and, if women under these circumstances and affected with this complaint be wet-nurses, their infants participate in the disease from the milk not being sufficiently nutritious. It is also produced by habitual gluttony, and particularly by an habitual and immoderate use of spirits, which have the strongest tendency to render torpid the collatitious organs of digestion, and especially the liver, whence congestions and other obstructions, and whence, too, the larger and more dangerous hemorrhages that occur in this species.

Appearances  
of the blood.

The causes of purpura, and its pathology, are not well ascertained. In the very remarkable example of the disease recorded

\* There is no sponginess of the gums, as in common scurvy, nor are the limbs affected in the manner often exhibited in the latter disease. Rayer, in his *Traité des Maladies de la Peau*, tom. ii., has described purpura under the name of *hémacélinose* (derived from *αἷμα*, blood, and *κῆλις*, a spot, and *νόσος*, disease), and arranged it with cutaneous and subcutaneous diseases. But, as Dr. Watson has justly observed, purpura cannot be regarded merely as a cutaneous disease; for the effusion of blood is not confined to the skin, or subcutaneous textures, but may happen likewise on internal surfaces, and in the parenchymatous texture of the viscera. (See *Med. Gaz.*, vols. vii. and x.) Frequently, as Dr. Elliotson remarks, there is a bleeding from the mucous surfaces, bleeding from the mouth, from the stomach, and from the intestines. There is no inflammation, nor tenderness of the particular parts. The white of the eye and inside of the mouth are often spotted. The disease occurs under the most opposite circumstances; occasionally with great debility, weakness of the pulse, exhaustion, and sometimes with an inflammatory state of the system, the blood being buffy and cupped, and the patient greatly relieved by venesection. In some other examples of the disease, such treatment would be death. In severe cases, the patient looks as if he were in a state of anemia. On the other hand, Dr. Elliotson informs us, that he has seen children with many hundreds of purpurul spots upon them, running about perfectly well. Frequently no cause whatever can be assigned for the disease, and the pathology is a perfect mystery. See Dr. Elliotson's *Lect. at Lond. Univ.*, as published in *Med. Gaz.*, vol. xi. p. 342. — Ed.

† See *Edin. Med. Chir. Trans.*, vol. ii. p. 161.

by Dr. Fairbairn, the blood drawn presented a striking peculiarity in colour and consistence: it was florid like arterial blood, slow in coagulating, and the coagulum soft and tremulous, without separation of serum. What was drawn, however, at the third bleeding, coagulated more firmly, and showed a small portion of serum.\*]

As these causes are widely different in their mode of action, though they concur in producing the same effects, the treatment must vary in like manner.

Where the source of the disease is poverty, with its miserable train of attendants, poor diet, impure air, hard labour, grief of mind, the mode of cure, recommended for the preceding species, will be found equally serviceable: but the tonic and stimulant plans may be carried to a higher range; the bark should be freely administered, wine be liberally allowed, and lemons, or citric acid in any other form, be used to an extent of three or four ounces of lemon-juice daily; which, however, is the smallest quantity from which any essential benefit may be expected. Of all the antiscorbutics, this is by far the most effectual, and by some writers is regarded as a specific. [In Dr. Fairbairn's case, fifteen drops of diluted sulphuric acid were frequently given in cold water.] And, as the weak action of the vessels is extreme, the terebinthinate stimulants, as camphor and the rectified oil of turpentine, are often peculiarly advantageous. The last has been strongly and judiciously recommended by Dr. Whitlock Nichol; and other practitioners have fully confirmed his views.†

The worst symptom is the tendency to hemorrhage, which is sometimes profuse, and restrained with great difficulty, and has been known to prove fatal. Occasionally, however, an accidental hemorrhage has had a contrary effect, and carried the complaint away; and hence Dr. Parry of Bath, and Dr. E. Gairdner of Edinburgh ‡, have found venesection serviceable. In some of these cases, we may reasonably suspect visceral congestion, and especially that of the liver, to lie at the foundation; and dissections have proved this to be no uncommon cause of the disorder.§ The symptoms of visceral obstruction, indeed, are often sufficiently clear; and where these occur, antecedently to the tonic plan, we must freely and repeatedly evacuate the bowels; and may advantageously have recourse to the lancet ||: and the more

GEN. X.  
SPEC. II.  
Porphyræ hæmorrhagica.

Medical treatment must differ according to the difference of cause.

Where a tonic plan advisable from the first. Importance of citric acid or lemon juice.

Essential oil of turpentine.

When to be preceded by evacuants.

\* See Edin. Med.-Chir. Trans., vol. ii. p. 163. Some of the best arguments, in favour of the doctrine, that purpura is dependent upon changes in the composition and properties of the blood, may be found in Dr. Watson's Lecture on Purpura. See Med. Gaz., vol. x. p. 498. — Ed.

† See Dr. Magee's case of purpura hæmorrhagica successfully treated with spirit of turpentine; Edin. Med. and Surg. Journ., No. lxxxv. p. 307. He prescribes, for an adult, half an ounce with an equal quantity of oleum ricini, and a little pepperimin or cinnamon water. Rayer applies to the petechiæ and ecchymoses on the surface of the body, linen wetted in spirituous lotions, a solution of the chloride of soda, or vinegar and water. See Traité des Mal. de la Peau, tom. ii. — Ed.

‡ See Edin. Med.-Chir. Trans., vol. i. p. 671. &c.

§ Plumbe on Diseases of the Skin, p. 108. 8vo. 1824.

|| One of the most severe and successful cases that Dr. Ellison ever saw treated, was under Dr. Roots, in St. Thomas's Hospital. There were petechiæ, vibices, and ecchymoses, in every part of the body; great congestion of the liver, so that the right hypochondrium was distended; and blood was poured forth from different cavities. The patient was bled, and took oil of turpentine, and he got

GEN. X.  
SPEC. II.  
Purpura  
hemorrhagica.

Sometimes  
cured by a  
metastasis.  
Strikingly  
illustrated.

so, as this form of the disease is sometimes accompanied with inflammatory action, and is chiefly what is referred to by Dr. Stoker under the name of dynamic purpura.\*

[The case, attended by Dr. Fairbairn, led him to consider it as having a striking resemblance to active hemorrhage; and hence, he is an advocate for the depleting system.]

In some cases, the disorder appears to be relieved by metastasis. Willan has related a singular case, which it is difficult to account for otherwise. A lady aged thirty-six, of the sanguine temperament, after experiencing, for several days, a painful inflation of the stomach, was seized, on the 17th of June, 1792, with violent vomiting, which continued almost incessantly through the 18th and 19th, and was accompanied with excruciating pains in the bowels. The fluid discharged was clear, strongly tinged with green bile, and amounted to three or four quarts a day. The vomiting abated about the 20th, and she had loose stools of a green colour, intermixed with black coagulated blood. This kind of discharge continued till the 25th, producing great languor and faintness, thirst and restlessness, with a cool skin and remarkably slow pulse. On the evening of the 25th, her extremities became suddenly cold, the pulse scarcely discernible, a cold sweat trickled from every part of the body, her voice was indistinct, and her breathing laborious. From this alarming state she recovered in the course of the night; and, on the following day, a rash appeared over the whole body in small and circular patches, confluent on the neck, shoulders, and nates, but, in other places, distinct. The eruption diminished in two or three days, and assumed a livid colour; and the discharge of blood ceased from this time. She improved generally, but, for two months, suffered greatly from languor and debility: the extremities were, for a long time, anasarctous, and two of the spots became gangrenous. In the *Trans. of the Medico-Chirurgical Society of Edinburgh*, vol. i. p. 680., is a brief history of a case that proved fatal in less than forty-eight hours. The patient was a strumous child; on dissection, the pericranium and dura mater were found covered with petechial spots. Blood was also effused on the brain; and the serous membranes in the chest and abdomen were universally studded, like the dura mater, with dark livid spots.†

Land-scurvy  
more frequent  
and severe  
formerly than  
at present.

The account now given of the causes of this species, corresponds to such as we usually meet with in the present day. But if we look back into the history of this disease as far as the seventeenth century, and especially to the state of this metropolis, we shall find hemorrhagic or land-scurvy making a much nearer approach to sea-scurvy than in our own time; not only in its symptoms, but from the

rapidly well. In another case, under Dr. Elliotson himself, treated in the same way, the patient became apoplectic, and a clot of blood was found on the brain. In proof that the disease may be inflammatory, it is alleged that the blood is sometimes buffy and cupped. In such cases, Dr. Elliotson finds that purging the patient with colchicum is a good practice. Where the pulse is strong, he approves of bleeding; but would in each case adapt the mode of treatment to the particular circumstances of it; and he admits the frequent necessity for bark, wine, and good nourishment. See *Med. Gaz.*, vol. xi. p. 843. — *Ed.*

\* *Pathological Observations*, &c., p. 110. Dublin, 1823. 8vo.

† Similar pathological appearances are recorded by Rayer, *Traité des Mal. de la Peau*, tom. ii. obs. 174. &c. — *Ed.*



peculiar causes that seem to have given rise to it, and which are now, for the most part, removed. The population within the walls of the old city was, at that period, far greater than at present, since the streets have been very extensively widened, and many of them entirely pulled down; and fashion, which does not always operate so usefully, has led all who are capable of following its steps, into the more salubrious air of the neighbouring villages. Independently of this, the supply of fresh vegetable food for man, and of winter-fodder for cattle, was, at the period before us, so scanty, as to render it necessary to salt a great quantity of the cattle that was killed in the summer season for winter use. To which we have to add a far greater degree of dampness and uncleanness, not only in the public streets, but also in private houses.

All these are also causes of sea-scurvy; and we find from the description of Willis and others, that they produced conjointly very similar effects; and that the mortality hence ensuing was very great. The monthly deaths, according to the bills of mortality, occasioned by what is there called scurvy, were seldom less than fifty, and frequently as high as ninety. In the period of the plague, they are only set down at a hundred and five from this last cause for the year. It was not, indeed, till the beginning of the sixteenth century that any great progress was made in the art of kitchen-gardening in our own country. At this last period, so low was the knowledge of this art, that Queen Catharine of Aragon could not procure a salad till a gardener was sent for from the Netherlands to raise it: nor were the most common articles of the kitchen-garden, such as cabbages, cultivated till this reign.\* And such was the prejudice at one time entertained against pit-coal, from its being supposed to load the atmosphere with unhealthy fumes, but which is now become one of our most powerful ventilators, and consequently one of our most active agents in promoting the general health of the city, that a law was formerly in existence which made it a capital offence to burn it within the city walls; so that it was only allowed to be used in the forges of the environs. Sir Gilbert Blane informs us, that the late Mr. Astle, keeper of the records in the Tower, told him that he had there discovered a document importing that, under the operation of this law, a person had been tried, convicted, and executed for this offence in the reign of Edward the First. We learn also from Davenant†, that heaps of the most noisome filth were suffered to accumulate in consequence of the imperfection of the public sewers; and that particular places were marked out and assigned for such accumulations, which were called lay-stalls; and hence the name of Lay-stall-street, which exists in one or two parts of the metropolis even in the present day.

The same happy causes, therefore, which have delivered us so generally from dysentery, remittent fevers, and even the plague itself, have freed us also from land-scurvy. And it has operated over all the other large cities of England, as well as over the metropolis; and over the open country, as well as over the towns.

GEN. X.  
SPEC. II.  
Porphyra  
hæmorrhagica.  
Explanation of  
this assertion.  
Unventilated  
atmosphere.  
Want of fresh  
vegetable food.

Hence land-  
scurvy of  
former times  
related to sea-  
scurvy.

Kitchen  
gardening  
little cultivated  
till the sixteenth  
century.

Singular proof  
of this.

Burning pit-  
coal esteemed  
poisonous:

and punished  
with death.

Public sewers  
deficient or  
wanting.

Lay-stalls  
common.

Cause of the  
diminution of  
land-scurvy  
operative upon  
other diseases,  
and other dis-  
tricts.

\* Anderson's History of Commerce. Sir G. Blane's article, Med.-Chir. Trans., vol. iv. p. 96.

† Page 351. ed. 1673.

GEN. X.  
SPEC. II.  
Porphyræ  
hæmorrhagica.

Even the remote districts of Somersetshire, not more than a century ago, formed a striking theatre for the exhibition of this tremendous scourge, as we learn from Dr. Musgrave's work \*, published in the year 1703. "*Agri Somersettenses, uliginosi magnâ parte et depressi, aërem crassum et humidum trahentes, incolæ, maculis subnigris, ulceribus malignis, erurum dolore, respiratione difficili, lassitudine spontaneâ, nervorum debilitate, hydropæ, gangrænâ, et istiusmodi aliis SCORBUTI exquisiti signis CREBERRIMÉ divexantur.*"

Explained  
more at large ;  
from remarks  
of Heberden.

The picture is strongly and fearfully sketched, and precisely corresponds with the definition just offered. How then comes the country, as well as the town, to be so wonderfully and beneficially changed in our own day? "The same spirit of improvement," says an admirable writer †, from whom I have often had occasion to quote, and whose words I would always give rather than my own, "which has constructed our sewers and widened our streets, and removed the nuisances with which they abounded, and dispersed the inhabitants over a larger surface, and taught them to love airy apartments, and frequent changes of linen, has spread itself likewise into the country; where it has drained the marshes, cultivated the wastes, enclosed the commons, enlarged the farm-houses, and established cottages. Few, perhaps, even among physicians, are aware of the extensive influence of these measures. Few have adverted, with the attention it deserves, to the prodigious mortality occasioned formerly by annual returns of epidemical fevers, of bowel complaints, and other consequences of poor and sordid living, to which we are now entire strangers."

Hence the disease now rarely found in the public infirmaries.

In consequence of this extraordinary improvement in the best branch of physical philosophy, the same attentive pathologist tells us, that "for ten years, during which time he was one of the physicians to St. George's Hospital, the cases of genuine scurvy that were brought into this establishment, and fell under his care, did not amount to more than four; not one of which was severe. In St. Bartholomew's Hospital, however, about the year 1795, owing to the very great severity of the preceding winter, various poor patients were received with all the characters of true porphyry; which, in one man, were carried to such a height, that he died in a most offensive state the day after he was admitted."

But has lately appeared in the Milbank Penitentiary.

We have lately, however, and to the astonishment of every one, witnessed a most severe and even fatal renewal of this disease, in the Penitentiary prison for convicts, established on the side of the Thames at Milbank: and this to such an extent, that, at one time, there were not fewer than about four hundred and fifty on the sick list, out of a prison population of about eight hundred and fifty ‡, chiefly labouring under dysentery or diarrhœa, from the effects of the disease on the stomach and intestines, which, on post-obit examinations, were generally found to be pulicose or ulcerated in various parts; the complaint being at length apparently propagated by contagion.

The cause of this disease has hitherto been involved in much doubt. The prison was throughout ascertained to be cleanly, and,

\* De Arthritide Symptomaticâ.

† Dr. Heberden, Med. Trans., vol. iv. art. vii.

‡ Report of a Select Committee of the House of Commons, 1823, p. 242.

for the most part, well warmed, the cells lofty and unobjectionable, and the courts airy and paved with flag-stone. The original soil was swampy; but it is generally believed at present to be free from damp, in consequence of the enormous expense of draining and other means of exsiccation that have been bestowed upon it: and the surrounding neighbourhood is undoubtedly healthy. It was at first mainly attributed to a reduced scale of diet, and particularly of animal food, which had been suddenly laid down for the prison; but a return to a richer scale produced no advantage: and was accompanied with an extension, rather than a diminution, of the diarrhœa or dysenteric form of the disease. So that at the end of six months after every remedial plan which the physicians to the establishment could devise in succession, that of mercury being the chief, at first given in small and alternate doses, and afterwards more freely, and for the express purpose of producing salivation, the whole prison population, as well male as female, was removed from the Penitentiary, and transferred to the hulks at Woolwich.

GEN. N.  
SPEC. II.  
Porphyria  
hæmorrhagica.

The real cause of this mischief has hitherto puzzled the ablest and most acute physiologists, and is supposed to bid defiance to all conjecture.\* Yet I think it is by no means impossible to follow it up, and drag it from its obscurity.

In a population so large as that we are now considering, it is not enough that the courts should be airy, and the air not manifestly loaded with moisture; but it is equally necessary, that such air should be free from confinement; that it should be in a constant state of perfusion, and refreshed and purified by renewal: for without this, large as the courts are, the air they contain must equally be drained of its vivifying power, and tainted with the azotic vapour that every individual is perpetually pouring forth from his skin and his lungs: and consequently must tend, in a greater or less degree, to a generation of the disease before us, or rather to all those morbid effects, which the Milbank Penitentiary has so strikingly unfolded.

Now it appears to me almost impossible to take a survey of this prison, without coming to an admission, that it is, with respect to ventilation, in the very condition just described. The inhabitants of the neighbourhood are healthy, because, notwithstanding the lowness and original swampiness of the ground-soil, and its exposure to exhalations, the fanning breezes, which are daily playing around them, carry off the rising moisture, and supply them with a perpetual current of pure air. But the height of the terminal and intersecting walls of the prison, with only a few small openings for doors, and no opposite outlets, effectually prevent this within its limits. Air will here, indeed, find its way, as it will every where else, unless opposed by an hermetical seal; but as soon as it enters the courts of the Penitentiary, it is almost as much imprisoned as the convicts themselves: it is in a considerable degree bottled up; and the only change it can undergo is, that of parting with its vivifying principle, and receiving a mischievous principle in return. Were it indeed entirely bottled up in the manner here spoken of, the result would be obvious instantane-

\* An Account of the Disease lately prevalent at the General Penitentiary. By P. M. Latham, M.D. &c., p. 217. 8vo. 1825.



GEN. X.  
SPEC. II.  
Porphyra  
hæmorrhagica.

ously: but this is not the case, for a part of it must necessarily fly off in consequence of its higher temperature, and greater specific levity, and its place be supplied with air from without. But the supply does not seem to be in proportion to the demand; the balance is not duly preserved, and the expired and tainted air is not sufficiently carried off. It is very possible also that some degree of humidity, though not manifest to the senses, is perpetually ascending from the low and once swampy soil beneath, which should be swept away by the winnow of a stirring breeze. Where a large population is immured in a boundary of any extent, if the supply of pure air be in the least degree below the supply of foul air, the health of such population must be enervated upon: and the less the difference, the more insidious the effect, because the more invisible. It is, however, an effect that must go on: its influence must at length become obvious, and challenge attention; and the result, as already observed, must be, if I mistake not, a combination of symptoms more or less approaching to those, which have of late been exhibited at the Penitentiary before us.

If the real cause be thus correctly traced out\*, the remedy will not be difficult in the hands of an able pathologist, and a *skilful architect*.

### SPECIES III.

## PORPHYRA NAUTICA.

### SEA SCURVY.

SPOTS OF DIFFERENT HUES INTERMIXED WITH LIVID, PRINCIPALLY AT THE ROOTS OF THE HAIR; TEETH LOOSE; GUMS SPONGY AND BLEEDING; BREATH FETID; DEBILITY UNIVERSAL AND EXTREME.

GEN. X.  
SPEC. III.  
Why denominated sea-scurvy.  
Has been found on land as well as at sea.

Sometimes in the Roman army:

and in the Holy Wars.

THIS species is denominated SEA-SCURVY, not from its being exclusively limited to mariners and extensive fleets, but from its being most common to persons thus occupied, and raging in such situations with the most fatal havoc. For the peculiar, as well as the general, causes which produce it at sea may also operate on shore, and have at times operated with merciless ravage in besieged garrisons, and among armies reduced to short provisions, or of unwholesome kinds, and worn down by fatigue, anxiety, and exposure to a damp atmosphere. Such seems to have been the condition of the Roman army under the command of Germanicus, as related by Pliny; whose account of the disease that preyed upon it, though vague and unsatisfactory, coincides with the general appearance of sea-scurvy. We have similar descriptions in several of the expeditions that took part in the Holy Wars, and

\* The difficulty of acceding to the author's views arises from the fact, that other prisons, quite as much crowded as the Penitentiary, less dry, and not so well ventilated, have not been visited by the disease in question. — ED.

particularly that of St. Louis, as related by Joinville. We may hence conclude, that sea-scurvy is not a disease of recent times alone\*; though it does not appear to have attracted any very general attention till the melancholy result of the famous voyage of Vasco de Gama in 1497. The spirit of maritime discovery was at this time in full vigour and activity: the Portuguese, the Spaniards, the Dutch, and the English vied with each other in their efforts to explore remote and unknown countries; the means of providing suitably for voyages of so great length were little understood; and hence the disease frequently made its appearance during the progress of the next half century, and raged with tremendous violence. It is well known, indeed, that, so late as 1741, the fleet under Captain (afterwards Lord) Anson, lost half its crew in the space of six months from the time it left England.

The diagnostics and progress of the disease are neatly and accurately concentrated by Dr. Parr. Its first appearance is evinced by a pale, bloated complexion, lassitude, and a disinclination to motion, with diminished energy in the muscular fibres: to which may be added, some degree of stiffness or induration, and an intumescence of the lower limbs. If the gums, even in this early stage, be examined, they will be found spongy and apt to bleed on being touched, while the teeth are loosened in their sockets. The skin is sometimes rough, but more generally smooth and shining, covered with bluish or livid spots, which do not rise above it; and these spots often coalesce in large blotches, particularly in the legs and thighs. About the same period, old ulcers often break out again, and the slightest mercurial preparation quickly produces salivation. The ulcers discharge often a fetid sanies, or are covered with a coagulated crust, which is renewed whenever it is separated. The edges are livid, with irregular granulations, which sometimes run into a bloody fungus. During the whole of this period, the appetite continues good, and though tensive pains arise, and are necessarily distressing, yet, on the whole, the patient feels little inconvenience.

The state of the bowels is very various. The stools are often frequent and offensive; but there is sometimes an obstinate costiveness. The urine is commonly high-coloured and fetid; the pulse feeble, but rarely quick. A weakness in the joints appears early, and increases with the disease; and a shrinking of the flexor muscles renders the limbs useless: producing the scorbutic paralysis of Dr. Lind. The calves of the legs fall away, with sometimes an irregular hardness, and at length become œdematous, while the bones themselves, no longer supplied with a sufficiency of calcareous earth, give way at the callus of fractures; and those which have been formerly broken and re-united, become again separate at the line of re-union. †

\* Compare Richter, *Pr. Disquisitio in Hippocraticas Scorbuti antiquitates*, &c.

† Aitken, *Essays on several important Subjects in Surgery*, &c. Lord Anson's Voyage, &c. Scorbutic ulcers have the following character: — Instead of pus, they excrete a thin, fetid, sanious fluid, mixed with blood. Their edges are generally of a livid colour, and swollen; a coagulum is soon formed on their surface, which can with great difficulty be wiped away, or separated from the subjacent parts. These are soft, spongy, and putrid. When, however, the removal of the coagulum is effected, another shortly afterwards forms again, followed

GEN. X.

SPEC. III.

Porphyra  
nautica.

Hence not a disease of recent origin, though not generally attended to till 1497, and afterwards.

Symptoms and  
general history.

Accession.

Progress.

GEN. X.  
SPEC. III.  
Porphyra  
nantica.  
Final stage.

Most obvious  
remote cause  
salt provisions.  
Proximate  
cause, putres-  
cence of the  
blood.

Other causes  
co-operate, and  
sometimes  
without salt  
provisions.

Muscular  
fibres as much  
affected as the  
fluids :

The last stage is truly distressing. Blood is frequently discharged from the intestines, bladder, and other organs. The slightest motion brings on faintness, and often immediate death. Catchings of the breath and syncope, sometimes slightly experienced, indeed, at an earlier period, are now frequent, and dangerous; yet the sense of weakness is so much less than its real amount, that the patient often attempts exertion, and dies in the very effort: though, more frequently, he survives the attempt for a short time, and especially when animated by any powerful and pleasant motive, as the hope of getting on shore, or even of engaging in fight with an enemy.

The most obvious of the remote causes of sea-scurvy is salt provisions; and, perhaps, the most obvious of its proximate causes is a putrescent state of the blood: and hence these are the causes that have been commonly assigned, from the time of Sir John Pringle to the present day.

That an excess of salt, and particularly of salted meat, is a powerful cause in the production of scurvy, is unquestionable; yet not more perhaps from its tendency to dissolve the fluids,—for the blood retains a buffy crust even to the last,—than from its rendering the salted meat less nutritious. But it is by no means the only cause. In the preceding varieties, we have already seen it produced on land as well as at sea, and in some cases where there was no employment of salt provisions. And even sea-scurvy itself has occasionally been found to arise where the diet has by no means been saline; and in damp situations, whatever have been the diet, unless where peculiarly generous and stimulating; and we have one instance of its having occurred in a young woman who had subsisted almost wholly on tea.

In like manner, though the fluids of the body are loose and incoagulable, the muscular fibres are equally loose and incontractile; so that the latter, as justly observed by that excellent practical writer, Dr. James Lind\*, are as much affected as the former: and, if we attend to the course of the symptoms as they arise, we shall find that they are affected soonest; for the earliest signs of the disease are those of languor, debility, and dejection; though, upon the whole, the mental depression is less considerable than in land-scurvy; and, as we have already observed, there is a sense of mental energy to the last, which is far more than commensurate with the actual strength of the body.

How far salt provisions alone might produce sea-scurvy, it is scarcely worth while to enquire; for there is no extensive history of the disease in which they have acted solitarily; having always been more or less united with a cold or damp atmosphere, great fatigue, or a want of proper and invigorating exercise, want of ventilation, neglect of cleanliness, and very generally short rations, or an unwholesome diet of other aliments, besides salt meat.†

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by a soft bloody fungus of considerable size, termed by sailors bullock's liver. According to Lind, it is as difficult to repress almost as fungus hæmatodes, and, when destroyed by the cautery, or the knife, is reproduced again in a few hours.

— En.

\* Treatise on the Scurvy, &c., p. 277.

† An insufficient supply, or total want, of fresh succulent vegetables, might here have been noticed amongst the exciting causes of scurvy in long voyages.

— En.



Now these are causes which must have a direct influence on the fibrous structure, and consequently on the whole organisation of the body, before the fluids can become affected; and it is easy to trace the changes which occur in them subsequently to, and through the medium of this influence.

Under the circumstances we are now contemplating, the digestive organs suffer first; they become weakened in their power, and, for the reasons already stated when treating of MARASMUS, the weakness will extend through the whole range of the digestive chain and influence all the organs of assimilation; whilst the lungs, the brain, the heart, and the skin, unite in the general debility. Hence none of the secretions will be sufficiently elaborated, or, performed in sufficient quantity: there will be a less supply of sensible energy, and a less vigorous action of the vascular system: a smaller formation of gluten, and elimination of carbon from the lungs. And hence, as a necessary consequence, the looser texture, and deeper hue of the blood.

On this account Girtanner\*, and other pathologists, who refer sea-scurvy exclusively to a looseness of the solidum vivum, have more to advance in their behalf than those, who refer it exclusively to a looseness of the fluids. But both are affected, and affected equally, though the former takes the lead. Sea-scurvy is, therefore, a disease whose proximate cause is a putrescent, though not a putrid, state of the animal solids and fluids, produced by an assemblage of antecedents co-operating to a common effect.†

It is assuredly, however, not necessary that all the causes we have adverted to should operate at the same time. But it is of the utmost importance, both in preventing the appearance of the disease, and in effecting its cure where it is present, to have the eye cautiously directed to every one of them, and to destroy its agency as far as we are able. And it is owing to the unremitting attention which is paid to these points in the navy of our own country, that sea-scurvy has long been rarely heard of in English fleets or English merchant ships; and that the globe is perpetually sailed over, and the highest as well as the hottest latitudes coasted and cruised in, without the generation of this destructive plague. And thus it has been ever since the celebrated and extraordinary circumnavigation of Captain Cook in the Resolution; in which, by first laying down a code of regulations for the government of his crew, founded on the soundest judgment, and afterwards persevering in them with an unremitting spirit directed to all the subjects before us, he was enabled to fulfil his voyage, of three years and eighteen days, with a company of a hundred and eighteen men, traversing all climates, from fifty-two degrees north to seventy one south, with the loss of only one man by disease, and that man apparently labouring under a consumption before he left home.

The regulations and management, adopted by Captain Cook, are contained in his paper communicated to the Royal Society.‡ It is

GEN. XI.

Present position of the illness justified.

and ultimately on the blood.

Hence the solidum vivum alone asserted to be the seat of disease by some writers.

Necessary induction.

All the causes necessary to be attended to in attempting a cure:

and hence the general health of English fleets in modern voyages.

Admirable management of Captain Cook; and wonderful salubrity of his crews.

His regulations the basis of all subsequent

\* In Blumenbach, Bibl., band iii. p. 527.

† That scurvy is a disease of the whole system, is now universally believed. In post-mortem examinations, pathologists find extravasations of dark-coloured blood, not merely in the sub-cutaneous cellular membrane, but in several of the viscera, and also between the fibres of the muscles. Some interesting specimens of the latter fact may be seen in the Museum of the London University. — Ew.

‡ Phil. Trans., vol. lvi. year 1776, p. 402.

GEN. X.  
SPEC. III.  
Porphyra  
nautica.  
Final stage.

a production of the highest merit, and was justly honoured with the Copley medal for the year. In conjunction with Sir John Pringle's additional remarks upon it\*, it has laid the chief foundation for the present mode of treating this disease, and particularly of providing against its attack. The principles it unfolds should be canvassed by the nautical student in the communications themselves, in conjunction with the later works of Sir Gilbert Blane† and Dr. Trotter.‡

Most obvious  
remote cause  
salt provisic  
Pr  
ds.  
Alkalescent  
plants.  
Coniferous  
tribe.

With the auxiliaries of cleanliness, proper ventilation, a dry atmosphere, and fresh provisions, the medical treatment of sea-scurvy is sufficiently simple, and the disease is found to yield easily. The means more immediately effectual are the native vegetable acids, and above all that of lemons, upon which we shall speak more at large presently; all sorts of fermented liquors; the alkalescent plants, as garlic, scurvy-grass, water-cress, garden cress, brook-lime, which, notwithstanding their alkalescence, contain a great quantity of acescent matter, and by their acrid property promote the excretions of urine and perspiration; and the spruce-fir§, as well as other plants of the coniferous tribe that contribute to the same purpose.

Rubus Chamæmorus.

The fruit of the *rubus Chamæmorus*, or cloud-berry, found on boggy mountains in our own as well as in more northern countries, is also a cheap and valuable antiscorbutic. In Sweden, from the recommendation of Linnæus principally, the berries are eaten very largely as a confection; the Laplanders, in whose gloomy region the plant grows in great abundance, preserve considerable quantities of the fruit in snow, and export them to Stockholm in casks.

Burdock.

Arctium  
Lappa.

The burdocks were formerly very much extolled in scorbutic and almost every other disease of the present order, and especially the *arctium Lappa*, clotbur, or great burdock, common to the wastes of our own country, which was supposed to possess all the powers of the China and sarsaparilla roots. The root, given in decoction, is certainly a diuretic and diaphoretic; but, as an antiscorbutic, it is of far inferior merit to the plants already mentioned.

Malt infusions.

The infusion of malt, as recommended by Dr. Macbride, does not seem to have answered all the expectations entertained concerning it. Dr. Trotter never saw it do good; and Dr. John Clark affirms freely and candidly, that in various cases in which he tried it, with all the concomitants of pure air and good nutriment, it had no influence either in removing the disease or in checking its progress; in consequence of which he preferred Dr. Silvester's antiscorbutic drink, which is made by boiling three ounces of cream of tartar, four ounces of juniper-berries, two drachms of ginger in powder, and five pounds of coarse sugar, in six gallons of water. After

Silvester's  
antiscorbutic  
drink.

\* A Discourse upon some late Improvements of the Means for preserving the Health of Mariners, &c. 4to. London.

† Treatise on the Diseases of Seamen.

‡ Medicina Nautica.

§ The essence of spruce, or rather spruce beer, is admitted, by Sir Gilbert Blane, to possess antiscorbutic virtues, as well as beer or porter; but the great remedy on which he insists is lemon-juice. The essence of spruce, a little diluted, produced surprising benefit in the West Indies. It acted as a purgative, and remained on the stomach, when every thing else was rejected. See Trotter's Med. Naut., vol. i. p. 349. — ED.

boiling half an hour, the whole is poured into a tub and allowed to ferment. It may be drunk as soon as the fermentation commences, from one to three pints daily.\*

Captain Cook, however, thought very highly of malt sweet-wort, and esteemed it one of the most powerful antiscorbutics. The Russians, for want of sweet-wort or table-beer, employ a brisk acidulous liquor called quas, formed by fermenting small loaves made of ground malt and rye-meal. Dr. Mounsey tells us, that this is the common drink of both the fleets and armies of the Russian empire. Oatmeal is also occasionally used for the same purpose, in the form of an acidulated gelatinous food denominated *soins*; made by infusing the meal in water till a fermentation commences and the liquor grows sourish, which in a moderate temperature will take place in about eight and forty hours. The liquor is then poured off from the grounds, and boiled down to the consistence of a jelly, which, sweetened with sugar and mixed with a little wine, yields an aliment not less palatable than medicinal.

Pure fresh water is also another material of great importance, not only in curing this disease, but in guarding against it: and of so much moment did Captain Cook esteem its purity, as well as its freshness, that he had the old stock poured away, though procured only a few days before, whenever he had an opportunity of obtaining a new supply. And at a time when it was universally conceived, that the frozen water of the ice-bergs consisted of salt water, or was unwholesome, as formed of frozen snow, it was matter of most agreeable surprise to him to find, that the melted ice of the sea, from whatever quarter derived, is not only sweet, but soft, and as wholesome as the purest spring or river water; thus affording him a supply he had no expectation of finding.

The best means of preserving water pure, is by keeping it in casks charred for the purpose on their inner surface: and the best means for restoring it to purity when it has become foul and offensive, is by mixing a little fresh powdered charcoal with every cask before it is tapped, and in drawing it off through a stone filtering cistern, containing a bed of the same material.

As fermented liquors have been found serviceable, many of the gases have been tried in their simple form, and some of them have been thought serviceable; but their carriage, or the means of obtaining them extemporaneously, is highly inconvenient: and it was well observed by that excellent navigator La Pérouse, that seamen may be gorged with bottles of them without deriving a thousandth part of the benefit produced from good slices of fresh meat, fruits, and herbs.

Of all the antiscorbutics, however, that have thus passed under our survey, the citric acid, or that of lemons, is the only one that can make an approach towards the character of a specific for scurvy; and how well entitled this medicine is to the maintenance of such a claim, now that the mode of preserving it in a state of activity, first suggested by Dr. Lind, has been fully established, the following brief but triumphant narrative of Dr. Baird, will sufficiently evince:—“The next time I saw this disease in a very spreading degree, so as to affect the whole fleet, at a period when

## GEN. XI.

Present  
osition of the  
us justified.

Pure fresh  
water:  
its great  
importance.

Means of  
preserving  
water pure.

Gases.

Specific powers  
of citric acid.

Illustrated  
from Baird.

\* Observations on Diseases in Long Voyages, &c. 8vo.



GEN. X.  
SPEC. III.  
Porphyra  
nautica.  
Final stage.

Most obvious  
remote cause  
salt provis-  
P.

the existence of the country depended upon that fleet keeping the sea, was in the year 1801, when my Lord St. Vincent took the command of the Channel fleet. A short time after we sailed, and in not more than a fortnight, the scurvy made its appearance, and spread very rapidly through the fleet. Fresh provisions were not then supplied to it as now, nor vegetables. Being aware that lemon-juice was then in store, and could be drawn for the fleet, I expressed to the commander-in-chief my great anxiety, that a fresh supply should be had as fast as possible. The fleet was then blockading Brest: a cutter was despatched to communicate the state of the health of the fleet; a supply of lemon-juice came out, and we gave it freely to those labouring under the disease, and daily, mixed with water and sugar, to the whole of the crews of the ships, and continued its use during the time we were at sea, which was nearly seventeen weeks; during which time the fleet had not, as a fleet, a single fresh meal, nor any thing in the shape of an antiscorbutic, but lemon-juice. The disease under the use of this totally disappeared; we returned with twenty-four sail of the line into Torbay, out of which number there must have been ten or twelve three-deckers; and I think, estimating fairly, there could not, upon an average, have been less than seven hundred men in each. When we arrived, the surgeons of the fleet were desired to make a return of the number of patients fit for the hospital. They made a return of twenty-four. I was directed by the commander of the fleet to examine them, to see whether they were subjects for the hospital. I found eight of them were cases of hernia, or surgical cases that could not be benefited by the hospital. I selected sixteen from them. Out of twenty-four sail of the line, there was not a single case of scurvy; and, what was extraordinary, to such a state of health was that fleet brought by the use of lemon-juice, that the *Glory* had only four men on her sick list; so that out of fifteen or sixteen thousand men, there were only sixteen subjects for the hospital; and some of the ships had not lost a man at that time."\*

Sick should not  
be suddenly re-  
moved ashore.

Often sink in  
the attempt.

As the vessel of a tainted crew approaches land, nothing is more common, or apparently more reasonable, than for those that are most affected to be most anxious to be put on shore at the moment. Yet, for reasons we have already urged, this should rarely be complied with; for the real debility is so much greater than the apparent, or, in other words, the energy of the mind is so much greater than that of the body, that they often sink under the labour of the removal, and sometimes die before they reach the asylum provided for them. In cases of extreme weakness, the external air alone, and especially when sharp or in a current, is sufficient from its pressure and stimulus to puff out the little flame that flickers in the vital lamp; a fact which, to adopt the words of Dr. Trotter, "has been long observed, and recently confirmed by five men dying in the boat belonging to the Prince of Wales ship of war, between the Downs and Deal hospital."

\* Report of the Committee of the House of Commons upon the Penitentiary at Millbank, 1823, p. 199.

## GENUS XI.

## EXANGIA.

ENLARGEMENT, BREACH, OR OTHER MORBID PERFORATION OF  
A LARGE BLOOD-VESSEL, WITHOUT EXTERNAL OPENING.

THE expediency of placing this genus in its present situation among diseases dependent on a "morbid state of the blood or blood-vessels," would be obvious to every one, even though the maladies it embraces were in every instance local. This, however, is rarely the fact; for the first two species, included under it, result commonly from a peculiar diathesis; and the last is productive of severe, and often fatal constitutional, disorder. These species are as follow:—

GEN. XI.  
Present  
position of the  
genus justified.

1. EXANGIA ANEURISMA.
2. ————— VARIX.
3. ————— CYANIA.

ANEURISM.  
VARIX.  
BLUE-SKIN.

## SPECIES I.

## EXANGIA ANEURISMA.

## ANEURISM.

PULSATING TUMOUR OF AN ARTERY.

THE disease of aneurism, which consists in a permanent dilatation or breach of the coats of an artery, may be produced by external violence, as a strain or puncture, or by arterial debility. The last is the more common cause, and it may be local or general: it may be limited to the part in which the aneurismal swelling occurs, or it may extend through the whole range of the arterial system, which is sometimes found to be universally, though irregularly, feeble, and consequently feebler in some parts than in others. It is this last condition of the arteries, which constitutes what has been called the aneurismal diathesis; and, under its influence, aneurismal tumours not infrequently occur in different arteries of the same individual, simultaneously or in succession. De Haen gives a singular example of this in a boy of seventeen.\*

[Sir A. Cooper has seen seven aneurisms in one person: one in each hand; one at the bifurcation of the aorta; one at the origin of the arteria profunda; one in the middle of the thigh; and two between the popliteal and the femoral.† But Pelletan the enormous number of sixty-three, from the size of a filbert to that of a

SPEC. I.  
Causes.  
That of debility  
most common.  
May be local  
or general.

Aneurismal  
diathesis:  
producing an  
aggregate, or  
succession, of  
aneurismal  
tumours.

Causes of  
aneurism.

\* Rat. Med., iv. 2. § 7.

† Sir A. Cooper, Lectures on the Principles and Practice of Surgery, vol. ii. p. 27. 8vo. 1825.

## GEN. XI.

## SPEC. I.

Exangia  
aneurisma.

hen's egg.\* It is an observation made by the former experienced surgeon, that when aneurisms occur opposite to a joint, a partial disease of the artery often gives rise to them; but that, when they are seated in other parts of the body, there is usually a disease in the arteries, which produces a general disposition to their formation; in other words, there is an aneurismal diathesis. The ultimate success of operations, he says, will depend very much upon the disposition to the disease being partial or general.† With respect to the cause of aneurism, which our author ascribes to what he terms arterial debility, if we exclude those cases which arise from the wound or rupture of an artery, it is certain, that the generality of instances are preceded either by a steatomatous thickening, with ulceration of the internal coats of the artery, or by calcareous deposition between the middle and internal coats, attended with loss of elasticity in the affected part of the vessel, and a disposition to crack or give way. The blood then comes in contact with the external elastic coat, which is raised into an aneurismal swelling. At length, more or less of this coat is removed by absorption, or bursts, and the blood then receives a covering from the arterial sheath. As the disease advances, it presses upon and causes the absorption of all the surrounding parts, and is more or less diffused and circumscribed, according as it may happen or not to be confined, or bounded by an entire cyst, formed by the adhesive inflammation, the remains of the original sac, or any ligamentous expansion.‡]

Disease appears  
under four  
varieties.

Aneurism is ordinarily represented as appearing under only two forms: the true, or, as Mr. B. Bell more particularly denominates it, the encysted§; and the false or diffused. To these it is necessary to add the varicose of Dr. Hunter, and the cardiogmus of the Greek writers; thus presenting us with the four following varieties:—

- α Cysticum.
- β Diffusum.
- γ Varicosum.
- δ Cardiogmus.

- Encysted aneurism.
- Diffuse aneurism.
- Varicose aneurism.
- Aneurism of the præcordia.

α E. Aneurisma  
cysticum.

Distinctive  
character.

The TRUE OR ENCYSTED variety, forming the aneurism by dilatation of M. Petit ||, is characterised by the tumour being circumscribed or having a defined outline; and is produced by a yielding or dilatation of the coats of an artery so as to form a sac, which constitutes the sphere of the arterial enlargement. Where it does not occur suddenly from external violence, it is commonly the result of a diseased state of the arterial coats, by which the artery becomes changed in its general character, and especially thinner in its texture. This morbid condition sometimes extends to a considerable range, and the artery is in consequence dilated through its whole circumference, and, where the aorta has suffered, has been found to occupy its entire curvature, and even to extend beyond it. At times, indeed, and not unfrequently, as we have

\* Clinique Chir., tom. ii. p. 1.

† Lect., vol. cit. p. 40.

‡ See First Lines of Surgery, p. 255. 5th edit.

§ Syst. of Surg., vol. i. ch. iv. p. 196.

|| Mémoires de l'Acad. des Sciences, 1756.



already observed, it is a constitutional affection, and various arteries fall a prey to its influence simultaneously or in succession. And hence Sir Astley Cooper has wisely cautioned his pupils never to operate upon an aneurism, till they are satisfied that no others exist.\* The period of life at which they most usually occur, is between thirty and fifty years of age, when the muscular system is yet strong, but the strength of the arterial tissues is beginning to be impaired. And we can hence readily perceive why males should be more subject to the disease than females; as also why persons in very advanced life, like the young, should less frequently suffer from its attacks. One man of eighty, and one boy of eleven years of age, form the extremes on which Sir Astley Cooper tells us he has ever had to perform the operation; — in the first, the aneurism was popliteal; in the second, tibial; and both appear to have done well.†

GEN. XI.  
SPEC. I.  
a E. Aneurisma  
cysticum.

The tumour, when first observed, is small, and excites little attention; for there is no pain, the skin is of its natural appearance, and the tumour vanishes when pressed upon by the finger. But, during the pressure, a pulsation is clearly distinguishable, corresponding with that of the subjacent artery. As the disease advances, the tumour increases; and when it has gained considerable magnitude, the skin becomes pale, and even œdematous; the pulsation still continues, though the tumour yields less regularly to the pressure of the finger than heretofore, being soft and fluctuating in some parts, but, from coagula lodged and hardened in the sac, firm and resisting in others. The seat of the aneurism at length becomes distressingly painful from the increased coagulation and swelling; the skin assumes a livid hue, and seems verging to a gangrenous state; a bloody serum oozes from it, and it often ulcerates; when the walls of the arterial sac, meeting with less support than hitherto, give way, the blood bursts forth with violence, and, if the artery be large, soon produces death by inanition.

Description.

In an early stage of the disease, it cannot easily be mistaken for any other; for the signs of a regular pulsation, absence of pain, and disappearance of the tumour on pressure, are sufficient to distinguish it. But when, in the progress of the complaint, the pulsation becomes almost imperceptible, and the tumour hard, it has been confounded with other encysted tumours, serofulous swellings, and abscesses. The last is the most common error, and, by leading to an injudicious opening, has sometimes proved a fatal one.‡

Sometimes  
mistaken for  
other diseases.  
How distin-  
guishable.

Pressure, under favourable circumstances, has sometimes produced changes leading to a cure of the disease. Dr. Albers, of Bremen, gives an instance of this even in an aneurism of the femoral artery.§ It has commonly been said that the compress should never amount to more than an easy support to the weakened and enlarged organ ||: and it is very probable that tight bandages, by impeding the circulation in the adjoining veins, as well as arteries, have often proved injurious. Dr. Percival, however, in the manuscript comment with which he has enriched the

Sometimes  
cured by  
pressure.  
Compress in  
general should  
be easy and  
only afford  
support.

\* Lectures, &c. ut supra, vol. ii. p. 29.

† Id., vol. ii. p. 46.

‡ Reinesius, Schola Ictorum Medica, p. 321.

§ Trans. of Medico Chirurg. Soc., vol. iv.

|| Desault, Journ. de Chirurg., tom. ii.

## GEN. XI.

## SPEC. I.

a E. Aneurisma  
cysticum.

But a tight  
compress has  
sometimes  
proved most  
successful.

Illustrated  
from Perceval's  
notes.

Patient should  
be kept in a  
reduced state.

Spare diet  
alone has  
effected a cure.  
Aneurism has  
ceased sponta-  
neously.

Various pro-  
cesses by which  
a spontaneous  
cure of aneu-  
rism may be  
effected.

author's volume of Nosology, has the following notice under the present head; seeming to show that even a tight compress has at times been of the highest advantage; and a like success is related by Acrel in an aneurism of the aorta.\* "In the rebellion of 1798, an officer received a wound from a bayonet which grazed the left carotid artery and produced a pulsatory tumour; this was kept down by a spring-collar, and at length disappeared. Many years after, having lived rather freely, he died dropsical. Previous to his death, he had a most violent palpitation of the heart, and discharged by stool immense quantities of blood. The heart was not found enlarged, but the cavity of the left carotid was almost entirely obliterated."

In connection with pressure, great benefit has also frequently resulted from keeping the amount of the circulating fluid in a diminished state by occasional venesections, purgatives, and a spare diet. Morgagni relates a case in which such a regimen alone effected a cure when commenced early.† Yet it is obvious, that in some habits a cure, even of the same artery, is obtained much more easily than in others: and hence it seems sometimes to have taken place spontaneously; of which an example is given by Mr. Crampton‡, and by Mr. Ford in a journal of an earlier date.§

[Although it is the common course of aneurisms, when they are left to themselves, to increase in size, and at length to burst and destroy the patients by hemorrhage, sometimes things happen otherwise, and, in consequence of certain changes taking place, a spontaneous cure is the result. There are four modes in which this desirable event may be produced. 1. Sometimes the whole aneurismal swelling suddenly inflames and sphacelates: in this state, if the inflammation extend its effects to a sufficient depth, the sac in the vicinity of the artery, and a portion of the canal of this vessel itself may become completely blocked up by coagulating lymph, so that no more blood can get into the tumour, the pulsation of which is extinguished. The mortified parts, together with the mass of congealed and sometimes putrid blood in the sac, are cast off; and, if the patient's constitution holds out, the ulcer, left by the detachment of the sloughs, heals up, and the cure is completed. When, however, the inflammation and sloughing are confined to the skin and superficial portion of the sac, the patient bleeds to death on the separation of the dead parts. 2. The second process, by which the spontaneous cure of an aneurism may be produced, is the increase of the lamellated coagula in such a degree within the sac, as completely to fill it, in which case the blood also coagulates in the adjoining portion of the artery, which becomes impervious for a certain extent above and below the communication which it had with the aneurismal cavity. Similar changes happen when the cure is accomplished by pres-

\* Chirurgische Vorfälle, band i. 41.

† De Sed. et Caus., ep. xvii. art. 30, 31.

‡ Med.-Chir. Trans., vol. vii. p. 341.

§ Loud. Med. Journ., vol. ix. Other instances have occurred to Dr. Baillie and to Sir Astley Cooper. "I have seen," observes the last writer, "spontaneous cures of aneurism produced without any circumstance which would readily explain the cause." Lectures, &c., vol. ii. p. 48. 8vo. 1825.

sure. 3. Until lately, it was believed by Scarpa and other eminent pathologists, that no aneurism could be cured, unless the sac and an adjoining part of the artery were thus obliterated; but the facts collected by Mr. Hodgson leave no doubt that, when an aneurism of the aorta undergoes a cure, the sac alone may be filled up with coagula, while the vessel itself remains pervious. 4. The last manner in which a spontaneous cure may be brought about, is by the pressure of the sac itself upon the artery.\*]

Every palliative means should be had recourse to before an operation is resolved upon; for, even under the most favourable circumstances, such a step is hazardous, and it is peculiarly so when the aneurism is connected with a diseased state of the arterial trunk or the whole arterial system, of which it is seldom possible for us to form a correct judgment. To describe the nature of the operation would be to travel into the province of surgery. I may, however, observe that, in cases of necessity, it has often been performed with full success, and even a perfect use of the affected limb, in trunks of a very large calibre. Sir Astley Cooper has given an account of two cases in which the operation was effected on the carotid artery. The first proved unsuccessful from the long standing and size of the sac, which pressed with perpetual irritation on the larynx and pharynx, exciting frequent fits of coughing, and preventing deglutition. The second case terminated favourably, but the tumour was smaller and of more recent growth. †

In the SECOND VARIETY, OR DIFFUSE ANEURISM, the aneurism by infusion of M. Petit ‡, the coats of the artery, instead of being dilated into a sac, are divided, and, the blood flowing at large into the cellular or other surrounding parts, the tumour is extensive and undefined.

This is usually the result of external violence; the swelling often spreads to an unlimited range, and the progress towards a rupture of the integuments is more rapid than in the last. Here pressure is of no avail and even mischievous, since it will more effectually obstruct the course of the blood in the surrounding veins than in the divided artery, and increase the chance of mortification. The cure should be conducted on the same principles by which the treatment of a wounded artery is regulated. Sometimes, however, a single ligature above the wound or rent in the vessel will suffice, and does generally suffice, in the false aneurism at the bend of the arm, not unfrequently occasioned by the unskilful use of the lancet.

The THIRD VARIETY, OR VARICOSE ANEURISM, OR ANEURISMAL VARIX, was first distinctly pointed out by Dr. Hunter, who charac-

GEN. XI.  
SPEC. I.  
a E. Aneurisma  
cysticum.

Operation only  
to be performed  
in extreme  
cases :

Yet has been  
performed suc-  
cessfully on  
arteries of large  
diameter

E E. Aneu-  
risma diffusum.

Generally pro-  
duced by exter-  
nal violence.

Pressure of no  
benefit, and the  
operation  
mostly indis-  
pensable.

γ E. Aneurisma  
varicosum.  
How produced.

\* See Sir A. Cooper's Lectures, &c. vol. ii. p. 47. The pressure of one aneurism on the artery leading to another aneurism, has sometimes cured the latter. Thus, Mr. Liston records one example, in which the pressure of an aneurism of the arteria innominata on the subclavian artery cured an aneurism in the axilla. — Ed.

† When the simultaneous existence of several aneurisms, the state of the health, or other particular circumstances, do not forbid the operation, the maxim of the best modern surgeons is to operate, if possible, before the aneurismal tumour has attained a large size, which always renders the cure more remote and uncertain. — Ed.

‡ Desault, Journ. de Chirurgie, p. 321.



## GEN. XI.

## SPEC. I.

γ E. Aneurisma  
varicosum.

## Description.

terised it by this name. It is produced by puncturing an artery through a vein that lies immediately above it and upon it, as in blood-letting at the arm, so that the arterial blood flows from the arterial puncture, not through the cellular substance, but into the superincumbent vein through the corresponding venous puncture. In this case, the tumour is elongated, taking the course of the vein, which is hereby distended and rendered varicose. Sometimes, indeed, where the venous communications are frequent, all the adjoining veins participate in the distension, and are equally affected. The tumour, as in the first variety, disappears upon pressure, and, as soon as the pressure is removed, the blood issues from the arterial puncture with a whizzing sound and a tremulous motion, rather than a distinct pulsation.\*

Least dangerous of all the varieties: and generally relieved by pressure.

This is the least dangerous of all the varieties of aneurism, and that in which pressure may be most successfully applied. It has sometimes produced a radical cure, but generally so far succeeded as to render the operation unnecessary, provided the patient passes a quiet and unfatiguing life; for it has been known to exist twelve, twenty, and even thirty years without any serious injury to the general health.†

δ E. Aneurisma  
cardiognmus.

## Description.

The FOURTH VARIETY is distinctly a constitutional affection, and usually of considerable distress and oppression. It is characterised by an obtuse intumescence and constant disquiet of the præcordia, with a sense of internal weight and pulsation, increased on the smallest motion: according to Corvisart, the carotids throb, the pulse is strong, hard, and vibrating. It is the CARDIOGNMUS ‡ of

\* The varicose aneurism does not always correspond to this simple account of its nature; for, not unfrequently, between the vein and artery an aneurismal sac is produced, out of which the blood passes into the vein. This complication materially influences the principles of treatment, because the sac may enlarge to a considerable size, more particularly if its communication with the vein happen to be obliterated, while its communication with the artery remains free. — Ed.

† The simple form of aneurismal varix, left to itself, usually attains the size of a pigeon's egg, and then continues stationary. In consequence of a good deal of the arterial blood, destined for the supply of the hand and fore-arm, passing directly into the vein, those parts are weakened, and sometimes colder than natural, and the pulse at the wrist enfeebled or imperceptible. — Ed.

‡ Cardiognmus is used by some medical writers in two senses: — 1. That of a partial enlargement of the heart, forming a sac in which coagulable lymph is deposited, and which is sometimes called an aneurism of the heart. 2. That of a general dilatation of the natural cavities of this organ. (Bateman, Rees's Cyclopædia.) In the present work the term is more comprehensively employed, as under this head we find arranged dilatations of the cavities of the heart, aneurisms of the great vessels near it, and a thickening of the substance of the heart (hypertrophy), just as if they were only modifications of the same disease, and were marked by no material difference of symptoms. Now, although practitioners, even with the aid of the stethoscope and percussion, are not familiar enough with the pathognomonic symptoms of dilatations of the natural cavities of the heart, and of hypertrophy, to be able to give such a delineation of them as can be fully depended upon, yet it may be confidently asserted, that a dilated ventricle, with an attenuation of its parietes, cannot present the same kind of pulse, and cause the same general effects on the circulation, respiration, and system at large, as a ventricle the muscular substance of which is enormously thickened. This must be perfectly obvious, notwithstanding the fact remarked by Andral (Anat. Pathol., tom. ii. p. 283.), that the strength and hardness of the pulse do not depend altogether upon the greater or lesser thickness of the parietes of the left ventricle. The two diseases, in fact, are quite as different from one another as they are from aneurism of the arch of the aorta, with which they are classed. — Ed.

Galen and Sauvages; the aneurisma præcordiorum of many authors, and the polypus cordis of others. The symptoms are usually found on dissection to proceed from an aneurismal enlargement of some part of the substance of the heart, or the larger vessels in its immediate neighbourhood; but whether, as Corvisart affirms, the enlargement be more common to the left than the right ventricle \*, is not satisfactorily determined. † It is sometimes accompanied with, and perhaps produced by, a polypous concretion; and sometimes without any such substance whatever; and, where the larger vessels are affected, they are here, more than in any other variety, thickened and rendered rigid by irregular deposits of calcareous or ossific matter. [Two remarkable examples of blood in the heart having become vascular, were published by M. Bouillaud in his valuable memoir on the obliteration of veins. In one, the right auricle was occupied by a coagulum, in which were an infinite number of red vessels. In the other, the right cavities of the heart contained masses of organised, albuminous, fibrinous matter, adherent to the parietes of the heart, by means of filaments, and inseparable without breaking them. The patient died of symptoms resembling those of aneurism of the heart. Another case has been published by Dr. Rigacci. ‡]

Cardiognus is sometimes a result of violent exertion; and is then mostly an affection of the young and the strong, of those who engage in manly exercises, or are subject to violent passions. But it is more frequently a result of debility, and chiefly to be met with in persons of advanced age. It is well observed, indeed, by M. Rostan, that a dilatation and thickening of the walls of the heart are not a consequence of great power or strength of constitution with energy of healthy action; but are generally caused by that state of the arteries which is an ordinary consequence of old age, in which they lose their natural elasticity, and become ossified, thick, inorganic tubes. § This ossification affects the valves of the heart as well as the vessels in its neighbourhood, whence the heart is perpetually oppressed, and called upon for increased action: which increased action itself is another cause of increased thickening in the cardiac coats. ||

GEN. XI.  
SPEC. I.  
δ E. Aneurisma  
cardiognus.  
Common  
causes.

Found chiefly  
in advanced life,  
and where  
there is or-  
ganic debility.

\* Sur les Maladies et les Lésions Organiques du Cœur, &c.

† A thickening of the parietes of the heart, when partial, mostly affects the left ventricle (see Andral, Anat. Pathol., tom. ii. p. 211.); but the walls of all the four cavities may be similarly changed. An attenuation of the parietes, with dilatation of the cavities, forming the passive aneurism of Corvisart, is more common on the right than the left side of the heart. Op. cit., p. 289. — En.

‡ See Bulletin des Sciences Méd., Sept. 1828.

§ Nouveau Journ. de Médecine, tom. i. p. 267.

|| Hypertrophy is not always the original cause of palpitations of the heart, but often the effect of them. They take place in three very different states of the animal economy, which Prof. or Andral advises to be carefully discriminated, as they call for different methods of treatment. The first is a state of plethora, that makes the heart beat with too much violence, giving rise to dizziness, vertigo, &c. Here low diet and copious bleeding are indicated. The second condition promoting the occurrence of palpitations, is that in which there is deficiency of blood; and in a person thus circumstanced, the palpitations and dyspnoea cease as soon as he is fed well, and more blood has entered the system. In a third condition, the centres of the nervous system are primarily disordered; and then palpitations may be the only indication of the diseased modification of the nervous action; or sometimes merely a secondary effect, amongst many others, of which most organs may be the seat, as in hysteria. Here neither bleeding nor tonics will answer; but the patient must be submitted to such treatment as will

## GEN. XI.

## SPEC. I.

δ E. Aneurisma  
cardiogenus.

Passive enlarge-  
ment of Cor-  
visart.

Active en-  
largement.

Hypertrophia  
of Laennec.

Sometimes  
produced by a  
distinct cyst in  
the heart or  
adjoining  
arteries.

Cyst sometimes  
enormously  
enlarged.

This, however, is the *passive* enlargement of M. Corvisart; who gives us also a thickening and enlargement, which he calls *active*; in which the increased action of the heart, instead of being confined to itself, is extended to its parietes, to the vessels that issue from it, and, consequently, to the pulse generally. Laennec has acceded to this last form of disease\*, and it constitutes his *hypertrophia*. † In this case, the stethoscope, of which we have spoken under *marasmus phthisis*, may often be advantageously employed as a diagnostic. ‡

The disease not unfrequently proceeds from a distinct cyst sometimes traced in the substance of the heart, as that of the right auricle, of which an example is given by Bartholin §; or of the left ventricle, as stated by Dr. Douglas ||; but, more usually, in the arch of the aorta.

And, in some instances, this cyst, or some other morbid structure, has been found to become so much enlarged as to encroach in a very considerable degree upon the natural capacity of the heart. And hence, though the general substance of the organ with its diseased increase of growth has weighed, upon dissection, fifteen

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bring about some change in the state of the nervous system. Thus, as Andral explains, there are many affections of the heart which morbid anatomy only shows us, as it were, the terminations of; and what is observed in the dead body is not always the original cause of the symptoms. It is not hypertrophy of the heart that has at first occasioned the palpitations, but these have often been the cause of the hypertrophy. Moreover, although in the enlarged heart it seems as if a more active vitality existed, since there is an excess of nutrition, this local condition of the heart does not always prove the condition in which the constitution was at the period, when merely an increase of pulsations existed, without any augmentation of nutrition. Here morbid anatomy might lead to error, if the inference were made, that because the heart is thickened and enlarged, debilitating treatment were indicated in the commencement of the disorder. The therapeutic means must often be determined by the states of the nervous and sanguiferous systems then existing. See Andral, *Anat. Pathol.*, tom. ii. p. 346.  
— Ed.

\* De l'Auscultation Médiate: ou Traité du Diagnostic des Maladies des Poulmons et du Cœur, &c. 2 tomes. Paris, 1819.

† Hypertrophy of the left ventricle has several degrees. Thus, it may be quite restricted to the carnea columnæ, or merely affect the pillars of the mitral valve. In some instances it is only the septum ventriculorum that is thickened; while, in others, the whole of the parietes of the left ventricle may be in this condition. It is particularly in cases where the septum is in a state of hypertrophy, that the capacity of the right ventricle is singularly lessened, this cavity seeming, indeed, sometimes like a small appendage, of very narrow dimensions, attached to the left ventricle. The same effect, however, now and then proceeds from hypertrophy affecting only its fleshy pillars. The right ventricle seldom attains a considerable thickness, though Laennec has seen it five times thick, and MM. Berton and Bouillaud fifteen. Hypertrophy of the auricles is rare, and when it happens, it is almost always accompanied by the same affection of the ventricles. In hypertrophy of the parietes of the heart, its substance may either retain its natural consistence, which is most common; or it may be indurated, which is very unusual; or softened, which is still less frequent. In hypertrophy of the parietes of the heart, its cavities may continue of their natural size; be dilated, constituting the active aneurism of Corvisart, the eccentric hypertrophy of MM. Berton and Bouillaud; or, lastly, they may be diminished, so as to form the concentric hypertrophy of the two latter pathologists. Andral, *Anat. Pathol.*, tom. ii. p. 284.

— Ed.

‡ Suprà, p. 523.

|| Phil. Trans., vol. xxix. p. 1414-1416.

§ Act. Hafn. iv. obs. 47.



pounds, the cavity, in a few rare instances, has hardly equalled that of a walnut. Portal, who is disposed to admit of Corvisart's division of the disease into active and passive, seems chiefly to object to the term dilatation as applied to the heart in this state of engorgement.\*

In many of these cases, we can trace the cause; for the aneurismal artery is at times as contracted in the vicinity of the sac, as if it had been tied by a ligature. The aorta has occasionally, in this manner, been rendered altogether impervious, the circulation being continued by an enlargement of the anastomosing vessels.†

On this account, Morgagni ascribes the disease before us to a narrowness of the larger arteries as its common cause; and hence explains why it is so frequently found among tailors and other sedentary workmen.‡

The medical treatment can be rarely more than palliative. Fatigue and great exertion must be sedulously avoided, together with keen mental excitement. The diet should be light, the meals and hours of rest regular, and the exercise should be that of a carriage. The bowels must be attended to; and, where the palpitation or other distress is peculiarly troublesome, it may sometimes be relieved by camphor, ammonia, and tincture of hyoscyamus.

We may observe, before quitting the subject, that the largest aneurisms have been those of this quarter, and particularly of the aorta, as there is here the greatest force of action. Litre gives a description of one of the superior trunk that ascended as high as the maxilla §, and Teichmeyer of another that burst into the pericardium. || From their extent and pressure, they often erode the cartilaginous and even bony substance of the ribs; and La Faye relates a case, in which a part of the sternum, as well as two cartilages of the ribs, was hereby destroyed. ¶ In an enormous aneurism of the abdominal aorta, Morgagni mentions that the posterior wall of the artery itself was destroyed, the neighbouring parts supplying the place of a wall \*\*: and, in a like aneurism of the thoracic aorta, he found the bones in the vicinity broken and demolished by the force of its pressure.††

\* *Mémoires sur la Nature et le Traitement de plusieurs Maladies*, tom. iv. 8vo. Paris, 1819. The cysts or partial dilatations of the heart, here spoken of, vary in size from that of an almond to that of a hen's egg. Sometimes the parietes of the heart around them are thickened, sometimes remarkably attenuated. These pouches contain very solid layers of concrete fibrine, just as a common aneurismal sac does, to which they correspond in more than one point. M. Breschet, who has drawn up an interesting memoir on this form of disease, names it *false consecutive aneurism of the heart*; an appellation disapproved of by M. Andral, because dissection does not always exhibit a laceration of the lining of the heart. *Anat. Pathol.*, tom. ii. p. 290. — *Ed.*

† Cooper and Travers's *Surgical Essays*, i. p. 125.

‡ *De Sed. et Caus.*, Ep. xxi. 49., xxvi. 31—33.

§ *Mém. de l'Acad. Royale des Sciences à Paris*. Ann. 1707.

|| *Dissert. de Stupendo Aneurysmate Brachii, &c.* Jen. 1734.

¶ *Phil. Trans.*, N. 287.

\*\* *De Sed. et Caus. Morb.*, Ep. xl. 26.

†† *Ep.* xvii. 25—27.

GEN. XI.

SPEC. I.

§ E. Aneurisma cardiogmus.

Cause sometimes capable of being traced during life.

By Morgagni ascribed to a narrowness of the larger arteries.

Medical treatment.

## SPECIES II. EXANGIA VARIX.

### VARIX.

SOFT, LIVID TUMOUR OF A VEIN.

GEN. XI.

SPEC. II.

Description.

Resemblance  
to the encysted  
aneurism.

The varix  
sometimes  
bursts; in  
which case it  
resembles the  
diffused aneu-  
rism.

Found chiefly  
in the lower  
extremities.

How produced.

Sometimes  
found in other  
parts.

Circocoele,  
what.

Often highly  
irritable.

Medical  
treatment.

THIS disease is to veins what the true or encysted aneurism is to arteries. The coats of the veins are preternaturally dilated, and more in some parts than in others, so that a vein thus enlarged to any considerable extent often appears to be a chain of venous cysts; and as contiguous veins often communicate, the enlargement is not unfrequently extended from one to another, till the whole forms a plexus of varices, and every part seems ready to burst. In some instances, they do actually burst.

This affection mostly occurs in the veins of the lower extremities, in consequence of their being the most dependent part. They often arise spontaneously in persons of lax fibres; but are far more frequently a consequence of undue fatigue, strains, cramps, or pressure. The most frequent cause is a pressure of the fœtus in pregnancy against the external iliac veins, in consequence of which the blood ascends with difficulty from all the inferior veins, which become distended and weakened by its accumulation.

From strains or other causes, however, varices have been occasionally traced in other large veins than those of the extremities. Thus Tozzetti discovered one after death in the *vena azygos* \*; and Michaelis describes another, that terminated fatally, in the jugular vein. † They are also met with in the spermatic veins; and, in this position, have very generally been described under the incorrect name of circocoele or varicose rupture. Morgagni asserts, that the spermatic varix appears more frequently on the left than on the right side, from the insertion of the spermatic vein into the emulgent. ‡ They are often possessed of considerable irritability in themselves, and almost always add in a high degree to the irritability of diseased parts in the vicinity, so that, if an ulcer take place contiguously, it will rarely admit of a cure till the varix be first removed. §

The best remedy, in all cases where it can be applied, is a moderate, steady, and continued pressure, which, where the varix

\* Prima Raccolta di Osservazioni Medici, Firenze, 1752.

† See Richter's Chirurgische Bibliothek, in loco. The best modern pathologists make a distinction between simply enlarged and tortuous veins, and those which are varicose. The former are not attended with any disease of their coats, or with any changes disqualifying them for the due conveyance of the blood; whereas true varicose veins are accompanied with disease of their coats, and more or less obstruction of their canals. In Cruveilhier's Anat. Pathol., livr. xvi., may be seen an interesting representation of an enormous enlargement and tortuosity of all the subcutaneous veins on the fore part of the abdomen, causing a swelling, which he compares to a Medusa's head: the case was simple dilatation, not varix. — ED.

‡ De Sed. et Caus. Morb., Ep. XLIII. art. 34.

§ Mém. de l'Acad. Royale des Sciences à Paris. Ann. 1707.

occurs in the legs, is easily accomplished by an elastic stocking, or, which is preferable, a circular bandage of fine elastic flannel. Dauter's plan of using cold water is also a very simple, and, where the varix is fresh, not unfrequently a very efficacious remedy \* : but how far a solution of mineral acids or metallic salts may add to its virtue, as recommended by some practitioners, the author cannot affirm from his own practice.

[In cases which resisted compression, and were attended with a painful ulcer that would not heal, Sir Everard Home tied the trunk of the vena saphena, as it passes over the knee-joint. Many severe and fatal consequences, however, having resulted from this practice, Mr. Brodie conceived that it would be safer to cut the vein completely through, leaving the superincumbent skin undivided, a plan easily accomplished with a narrow, sharp-pointed, slightly-curved bistoury.†] The attempt to cure varices by the knife or ligature has succeeded where there is neither local nor constitutional irritability, but it has more frequently failed, and the inflammation hereby produced has occasionally proved fatal.‡ Yet, where the effect is less extensive, it is apt to be followed by a serious and far more diffuse enlargement of the vein with varicose prominences, similar to that which sometimes occurs in drawing blood from the arm, of which, till of late years, no very intelligent explanation has been given, and which I shall, therefore, endeavour briefly to illustrate.

This singular and painful line of swelling was at first supposed to arise from the prick of a nerve, and it is perfectly clear that the tingling and shooting pains which succeed venesection are sometimes produced by a partial division of a nerve, from an interesting case of Mr. Sherwen of Enfield, that only yielded to an entire division of the nerve by a transverse section above the orifice, after every other attempt had been tried in vain.§ But the nerves of the arm liable to be wounded in bleeding are mostly small and unimportant ; while others are often pricked and wounded in many of the common operations of surgery without any serious consequence whatever. The mischief has by other writers, as Heister, Garengeot, and Haller been ascribed to wounding a tendon or its aponeurosis, but, unluckily for such physiologists, tendons in other places are often torn or wounded with very little inconvenience. Even the Achilles tendon, the largest in the body, is frequently broken without any of the severe symptoms that sometimes arise from blood-letting. Besides which, the accident from bleeding occurs as frequently when a person has been bled in a vein which has no tendon near it, as where there is reason to expect that a tendon may have been wounded. It happens as often that a swelled arm is the consequence of bleeding in the cephalic or cephalic-median vein as of bleeding in the basilic or basilic-median.

GEN. XI.  
SPEC. II.  
Exangia  
varix.

Cure attempted  
by division.  
Often followed  
by more serious  
swellings of  
great length.

Nature of such  
swellings ex-  
plained.

Nature of these  
extended  
swellings ex-  
plained dif-  
ferently by dif-  
ferent writers.

\* Von dem äusserlichen örtlichen Gebranche des Kalten Wassers, &c. Leips. 1791. 4to.

† See Med. Chir. Trans., vol. vii. p. 195. Mr. Mayo obliterates varicose veins by applying a caustic paste over them. — ED.

‡ Observations on Varix, &c. By Richard Carmichael, &c. Trans. King's and Queen's Coll. Dublin, vol. ii. p. 315. 1824.

§ Edin. Med. Comment., vol. v. p. 430. See also Stud. of Med., vol. ii, Cl. III. Ord. II. Gen. VI. Spec. v.



GEN. XI.

SPEC. II.

Exangia  
varix.J. Hunter's  
explanation.

Mr. J. Hunter was the first physiologist who ascertained the real cause of the mischief before us, and traced it to a general principle, which he laid down as applicable to all internal cavities, namely, that, when injured or rendered otherwise imperfect, they are often apt to inflame at the injured part, and to have the inflammation spread rapidly over their whole extent, as I have already had an opportunity of observing under peritonitis, puerperal fever, and on various other occasions. He was first led to this view of the cause in the case of veins from noticing what occasionally happens to horses. It is no uncommon thing for hostlers, out of an unnecessary or ill-judged care, to bleed these animals in the neck, even when in perfect health; and, in several instances of this kind, Mr. Hunter had observed that the neck swelled and the horse died; and, on examining the nature of the disease by dissection, he found that the cavity of the vein was inflamed, and that the inflammation had spread along its internal surface to the chest, sometimes even to the heart itself. And he afterwards found a like effect produced in the veins of the human arm, where inflammation had succeeded to bleeding, and particularly in one case that occurred in St. George's Hospital, being that of a man who died suddenly on the eighth day after having been bled in the basilic vein of the right arm, and having suffered from inflammation as a consequence. On dissecting the arm, he found, not only that the cavity of the vein had inflamed, but that the inflammation had extended from the puncture which had been made by the lancet in blood-letting, as high as the axilla, proceeding also to some distance below the puncture. About the middle of the arm the vein had suppurated, and, from the ulceration or absorption of parts which attends abscesses, the vein was divided into two, and each extremity, like the internal surface of the abscess, was irregular and jagged.

Mr. Hunter was disposed to think that the principal cause which produces the inflammation of a vein after bleeding is the want of a disposition to heal, arising either from its being exposed, or in consequence of the lips of the orifice in the skin not being properly brought together. And he hence strongly advises that the sides of an opened vein should at all times be made to approximate as accurately as possible, and that the orifice in the skin should be drawn to one side of that in the vein, so as to make the skin do the office of a valve to the venal opening.\*

Explanation  
plausible, but a  
something still  
wanting in it:

Striking exem-  
plification.

Progress of the  
case.

There seems, however, in this explanation, to be a something wanting, and I cannot avoid thinking, as in the case of puerperal fever, that there must be, at the same time, some peculiar local or constitutional irritability predisposing the injured part to run into an inflammatory action; a striking instance of which, already slightly alluded to, occurs in a case communicated by Dr. A. Duncan. The patient, himself of the medical profession, twenty-eight years of age, had opened a boil on his hand with a lancet which had been applied to an obscure sore on the back of another person about a month previously, but against which no proof of being either poisoned or unclean could be brought forward. The inflammation, instead of subsiding after opening the tumour, increased, and spread up the arm to the axilla; but the swelling was attended

\* Edin. Med. Comment., vol. iii. p. 430.

with little redness and no acute pain, though with considerable fever and restlessness. The affected arm, three days afterwards, exhibited one or two red streaks running up from the elbow to the shoulder, in the course of the cephalic vein; the breathing was much affected, quick and short, but without pain in the chest; there was a troublesome cough, and the expectoration, though small in quantity, was tinged with blood. The countenance was anxious, depressed, and of a leaden hue; the features sharpened; the eyes sunk and dull; tongue foul; pulse a hundred and ten strokes in a minute. These symptoms increased in violence, with

GEN. XI.  
SPEC. II.  
Exangia  
varix.

Termination.

transient fits of delirium and subsultus tendinum; the intumescence of the arm, however, remaining to the eye much the same, with little complaint of pain. The patient sunk gradually in just a week from the first appearance of local affection, and ten days after using the lancet.

Post-obit  
examination.

On examining the body, much chronic disease was found in the chest: the cartilages of the ribs on one side were slightly ossified: there was a general adhesion of the lungs to the costal pleura, pericardium, and diaphragm, with a recent effusion of coagulable lymph; in some places a little coloured, and occasionally evincing a few fibrous shreds. The substance of the lungs appeared, also, generally unsound, and, in some parts, contained tubercles and calculi, one of the tubercles being as large as a nut, and filled with a yellow purulent looking fluid.

The general health had borne up under all these chronic sappings, undisturbed, to the time of the local affection of the hand, as also under a protracted fatigue, through the whole of the preceding winter, from a course of hard professional study, augmented, still more lately, by great mental anxiety and disappointment. All these seem to have produced a morbid excitement of habit, which, though not fatal of itself, gave a fatal tendency to the inflammation on the hand, or rather to the irritation of the cephalic vein, which was probably pricked on opening the boil, as will be sufficiently obvious from the appearances of the limb on dissection. Many livid spots were observed externally: the opened and unhealed ulcer was found to be accompanied with a swelling of the cellular substance, extending, more or less, up the whole arm: and, on making a long incision from this ulcer to the top of the shoulder, a small abscess was accidentally entered into at the bend of the arm, which proved to be the cephalic vein accidentally divided, and unfolded the immediate seat of mischief. The vein appeared full of purulent matter, and, in consequence, was carefully traced through its entire range. "The disease of the vein consisted in external redness, arising from the increased size of the vasa vasorum; thickening of all its coats, so that it remained, like an artery, round without collapsing; increased size, especially in the fore-arm; its containing no blood in any part of its course, and being generally filled with purulent matter, except in a few places where it seemed empty; and in the inner coat being everywhere red and thickened. The veins coming from the back of the fore-finger, middle, and ring-finger, were all diseased, but that from the little finger was healthy." \*

\* At the present day our knowledge of the frequency and nature of phlebitis has been much increased. We are now aware, that it may arise not merely from

GEN. XI.  
SPEC. II.  
Exangia  
varix.

PHLEBITIS is far more easily produced than ARTERITIS, as veins are more irritable than arteries; but we hence learn that even the former is occasionally influenced by constitutional excitement.

### SPECIES III.

## EXANGIA CYANIA.

### BLUE-SKIN.

SKIN MORE OR LESS BLUE; LIPS PURPLE; GENERAL HEBETUDE AND INACTIVITY.

GEN. XI.  
SPEC. III.  
General  
character of the  
species.

THIS species is designed to express that singular appearance and diseased state of the entire system, produced, mostly, by a connate communication of the two ventricles of the heart, and consequently, an imperfect discharge of the carbon of the blood at the lungs, which constitute the proper organ of its elimination. From the Greek *κύανος*, or "blue," Sir Alexander Crichton, in allusion to the colour of the skin by which it is peculiarly distinguished, has elegantly named it CYANIA, and the term has been adopted as a specific appellation, on the present occasion.\*

General  
physiology.  
State of the  
circulation  
before birth.

Antecedently to birth, the lungs are of small comparative importance to the functions of life and growth, and hence no more blood seems to circulate through them, than is necessary for their developement and health. The florid or decarbonated blood, instead of being received from the lungs by the pulmonary veins, is received from the placenta by the venæ cavæ, and passes for the most part at once into the general circulation, chiefly by means of the foramen ovale by which the two ventricles communicate, and partly by means of the ductus arteriosus, by which the pulmonary artery at this time anastomoses with the aorta; that portion of blood only which escapes through this canal flowing forward into the col-

the puncture or mechanical irritation of a vein, but may arise as a consequence of any surgical operation or accidental injury, and of any suppurative disease. Cruveilhier seems to the editor to claim the merit of having given the most rational explanation of the cause of its severe and often fatal character. When a vein inflames and suppurates, or pus is introduced into it, this fluid circulates with the blood, and reaches the venous capillaries, in which it excites obstruction, inflammation, and abscesses. Cruveilhier found, that when he introduced any extraneous fluid or matter into veins which communicate with the vena portæ, abscess in the liver was excited; but if the veins so treated were of the system more directly connected with the vena cava, the abscess often formed in the lungs, joints, serous cavities, &c. If it be asked, why the absorption of pus from common abscesses has no such effects, the answer which Cruveilhier would make is, that here the pus is so altered or modified by the action of the organs of absorption upon it, that the evil is thus prevented. Some of the best observations on phlebitis are contained in Cruveilhier's Anat. Pathol. — Eb.

\* A variety of cyania, not noticed by the author, is found to result occasionally from the internal use of the nitrate of silver. This fact was known to Fourcroy. (See Médecine éclairée par les Sciences Physiques, tom. i. p. 342.) The cases detailed by Drs. Albers and Roget, are highly interesting and curious. See Med. Chir. Trans., vol. vii. p. 284, et seq. — Eb.



lapsed substance of the lungs; amounting probably to not more than a third or a fourth part of the whole.

Immediately on birth, however, the plan of decarbonisation is immediately changed. The fetal duct and foramen are closed, and the whole mass of blood flows, black instead of florid, from the venæ cavæ into the heart, and is sent by the pulmonary artery to the lungs for ventilation, instead of to the placenta, in which organ, by the disengagement of the carbon with which it is loaded, and partly perhaps by the absorption of oxygen from the respired air, (for the subject is still open to controversy,) it acquires its perfect elaboration and florid hue.

Hence, if, in consequence of any aberration from the common law, which regulates the wonderful change that thus takes place in the infantine heart and its attached vessels at the time of birth, either of these communications should remain open, the venous or black blood must wholly, or in a very considerable degree, be thrown back again into the general circulation, instead of passing to the lungs: and the minute arteries on the surface, which give to the complexion its tinge, being filled with the same, the general hue must be changed from a florid to a blue or purple, more or less deep according as the pulmonary circulation is more or less impeded. This natural defect constitutes the disease before us. In the varicose aneurism, a small part of the florid or arterial blood flows through an accidental opening into the veins, but never in such a quantity as to disturb the economy of general health. In cyania a much larger, but variable proportion, of the black or venous blood flows by a physical opening into the arteries: and usually with serious inconvenience to the general health, most commonly indeed with fatal effects.

How far the ordinary disengagement of carbon from the blood may be dispensed with, or, in other words, to what extent these connate communications may remain, and the present disease take place, without endangering the life, we have no exact means of ascertaining. Dissections have shown us, that the foramen ovale has continued partially open to old age, without much or even any interference with the common functions of health\*: but we may confidently assert that, whenever so large a portion of venous blood is thrown into the arterial circulation as to give a blue or purple tinge to the lips or the skin generally, all the functions will be performed feebly, and there is great danger that the infant will never reach the age of puberty. There may be living power enough in the blood to support the growth of the frame during the retired and quiet tenour of infancy, in which there are no sudden exertions or calls for a more than ordinary expenditure of sensorial power; and hence it is no uncommon thing for a child to survive the first three or four years of life with a skin completely blue, and consequently with a full proof that the foramen ovale, or the ductus arteriosus, or both, are open to a very considerable extent, and that not more than perhaps a third or fourth part of the general current of the blood passes into the lungs and undergoes the process of ventilation. But as soon as a more active period of life commences, and the child is trusted to its feet, and engages, or should

GEN. XI.

SPEC. III.

Exangia  
cyania.

Change produced by birth.

Course of the disease hence obvious:

venous blood returned into the circulation not disburdened of its load of carbon.

Preternatural openings in the foramen ovale may exist to a certain extent without serious mischief:

but never so largely as to allow a blue tinge on the skin.

Why infancy capable of enduring such a condition, and not puberty or adolescence.

Hence fatal in the last two stages:

\* Geschichte einer Chirurg. Privatgesellschaft in Kopenhagen. Bertholin. Anal. Reform., lib. II. cap. 8.

## GEN. XI.

## SPEC. III.

Exangia  
cyanica.

and even in  
infancy pro-  
ductive of  
great debility  
and torpitude.  
Blue-boy of  
Sandifort.

Examples from  
other authors.

Misformations  
of the heart  
still more com-  
plicated, some-  
times not in-  
consistent with  
a condition  
of life.

The middle of  
life attained and  
passed.

Has arisen  
subsequently  
to birth.

engage, in the pursuits or even amusements of boyhood, with all its physical and moral excitements, the living power is not adequate to the demands made upon it, and he sinks beneath their oppression, and generally expires in a fainting fit. There is commonly, moreover, through the short and pitiable term of his existence, the clearest proof of general torpitude and deficient energy; every exertion is a trouble, every stimulus produces fatigue; the muscles enlarge, but they want vigour and elasticity; and so far as I have seen, the faculties of the mind are equally blunted. The celebrated blue-boy, described by Dr. Sandifort, advanced farther towards an adult age than is by any means common. Here the aorta took its rise from both ventricles; the pulmonary artery was scarcely pervious to a small probe, and the difficulty of passing the probe from the heart to the lungs was greater than in the contrary direction. The patient was affected with an asthma from his second year, and terminated the miserable series of his sufferings in his thirteenth.\* In the case of a young female, related by Morgagni, the term of life was protracted to the sixteenth year; but there appears to have been a somewhat freer communication with the lungs, notwithstanding that the foramen ovale was wide enough to admit the little finger. The patient, however, was sickly from her birth, and laboured under great general debility; her respiration was difficult, and her whole skin of a livid colour.† Dr. Holmes has lately communicated a similar case, but where the passage was somewhat more free: the patient in consequence reached the age of twenty-one, and then died of dropsy.‡

Life, however, for a short time has been maintained under still more complicated misformations of the heart and adjoining arteries. Mr. Standert gives the case of a blue-child, that lived ten days, in which the two ventricles communicated; there was no pulmonary artery, but its place was supplied by an artery that branched off to the lungs from the aorta in the situation of the ductus arteriosus, the blood from which was returned by four small pulmonary veins.§ And, in Dr. Baillie's Morbid Anatomy, is a still more complicated case of a child that lived about two months, in which the two ventricles communicated, but seemed to change their respective offices; the aorta arising from the right ventricle, and the pulmonary artery from the left. The arterious duct was also open.|| Richerand, however, gives an example, and it is the only one I am acquainted with, of a man who, under this disease, reached the age of forty-one: his flesh was of a relaxed fibre, his colour uniformly blue; and he could only sleep in a sitting position.¶

In a few instances, this disease has been suspected to arise subsequently to birth from some injury or diseased condition of the heart. Corvisart has related a case of this kind, that terminated fatally in a boy twelve and a half years old, and who had manifested no symptoms of the disease till five months before he saw him, which was on his admission into the Clinique Interne, April 21.

\* Observationes Anatomico-pathologicae, Lugd. Bat. 1777. 4to.

† De Caus. et Sed., Ep. xvi.

‡ Trans. of the Medico-Chir. Soc. of Edin., vol. i. art. vi. 8vo. 1824.

§ Phil. Trans., 1805, p. 228.

|| Plate vi. p. 21.

¶ Nouveaux Elémens de Physiologie, &c.

1797. His countenance was puffed, his lips violet, his restlessness extreme. He died on the 25th of the same month. On dissection, a foramen was found between the two ventricles, capable of admitting the little finger. \*

In distressing affections of this kind, the art of medicine is unavailable, and all we can advise is perfect tranquillity, a light diet, and attention to the state of the bowels. In one instance, and only one, I have seen the blueness of the skin gradually disappear a few months after birth, and the child grew stout; evidently proving that the morbid communication, whether in the foramen or the arterious duct, was closed by a natural process.

GEN. XI.  
SPEC. III.  
Exangia  
cyania.

Medicine of  
no avail.

Cyania some-  
times cured  
naturally.

## GENUS XII.

### GANGRENA.

#### GANGRENE.

THE DEATH OF A PORTION OF THE BODY, WHILE THE REST CONTINUES ALIVE, OFTEN IN A SOUND STATE.

GANGRENA, sphacelus, and necrosis have been hitherto used in very indefinite senses, sometimes as synonyms, and sometimes as different stages of a common disease. And, even in this last view, they have rarely preserved their gradations with any thing like an uniform consent; the whole of them sometimes expressing the highest, and sometimes an inferior, degree of the malady they equally import. For reasons stated in the volume of Nosology, the first of these terms is here employed in a generic sense, and the two latter as subdivisions or species included under it: sphacelus importing mortification, as it occurs in its ordinary form, with lividity, vesication, ulceration, and fetor; and necrosis that insensibility and shrivelling of the flesh, which occasionally occur in paralytic limbs. The genus will also extend to two other species: as the gangrene which commences in a bone, and is usually called

GEN. XII.  
Gangrene,  
sphacelus, and  
necrosis com-  
pared.

How related  
in the present  
system.

\* Cyania may occur, however, without any open communication between the right and left cavities of the heart, a fact particularly pointed out by Corvisart. On the other hand, such communication may exist, without cyania being produced. Dr. Crampton has seen several cases of this description. In one the communications were so capacious, that the heart might have been regarded as consisting of only one auricle and one ventricle. (Med. Trans. of Dublin College, vol. i. new series.) Breschet met with an instance in which the subclavian arose from the pulmonary artery, and yet there was no blue nor purple discolouration of the parts supplied by the ramifications of that vessel. Cyania of the face sometimes originates, as Corvisart explains, from the influence of organic disease in the right cavities of the heart upon the whole venous system. Under the same circumstance, the mucous tissues are liable to become injected, in old persons, with dark blood. Obstruction to the free passage of blood through the aorta, joined with hypertrophy of the heart, retardation of the pulmonary circulation, and plethora of the right ventricle and auricle, may likewise bring on cyania, or, as it is more frequently named, cyanosis. — Ed.



## GEN. XII.

a caries; and that peculiar form of the disease which begins insensibly in the extremities, and spreads without fever in an ascending direction, till the affected limbs drop off in succession.

All these will therefore be treated of in the following order:—

1. GANGRÆNA	SPHACELUS.	MORTIFICATION.
2. —————	USTILAGINEA.	MILDEW-MORTIFICATION.
3. —————	NECROSIS.	DRY GANGRENE.
4. —————	CARIES.	CARIES.*

## SPECIES I.

## GANGRÆNA SPHACELUS.

## MORTIFICATION.

THE DEAD PART SOFT, MOIST, CORRUPT, AND HIGHLY OFFENSIVE.

## GEN. XII.

## SPEC. I.

General  
character.

MORTIFICATION signifies the death of a portion of the soft parts, sometimes including also the bones, as when the whole limb mortifies. It is not, however, simply the death of parts occasioned in any kind of way, for when a piece of flesh is removed from the body by excision, its vital principle soon ceases; yet this is not mortification in the technical sense of the term. On the contrary, mortification is preceded by certain changes in the parts about to perish, which are generally converted into a brown, or black, fetid, cold, insensible mass, with which the general nervous and vascular systems have no longer any organic connection. The parts thus altered and deprived of vitality, are called sloughs. In consequence of the discontinuance of the living principle, the laws of animal chemistry, previously held in subjection by its superior sway, acquire an ascendancy; a play of chemical affinities takes place; and putrefaction, or a decomposition of the organised substance, and a restoration of its constituent parts to their elementary forms, necessarily ensue.

Moist gan-  
grene.

It is from this cause the affected part becomes soft, corrupt, and offensive, and is called *moist gangrene*; and not from an accumulation of animal juices, as stated by Professor Frank; “ob succorum stagnantium aut corruptorum abundantiam.” †

Produced by  
opposite ex-  
tremes of  
action.

The total debility, insensibility, or torpitude, attending gangrene, may be produced by too much or too little action or excitement; for the vital flame may be supplied so rapidly as to destroy by its own violence, or there may be no supply whatever. And we are hence furnished with the two following varieties of the disease:—

\* The sense of the term *necrosis*, as employed by the author, does not coincide with that commonly assigned to it by modern writers, and which is, a mortification of a more or less extensive portion, or even of the whole, of a bone; while *caries*, instead of being promiscuously used to denote either the mortification of bone, or the process in this structure analogous to ulceration of the soft parts, is now restricted by many judicious pathologists exclusively to the latter affection.  
— Ed.

† De Cur. Hom. Morb. Epit., tom. ii. p. 18. 8vo. Mannh. 1792.

$\alpha$  Inductus.

Superinduced mortification.

GEN. XII.

 $\beta$  Atonicus.

Atonic mortification.

SPEC. I.

Gangræna

sphacelus.

Ordinary  
causes.

The ordinary causes of the first are fever, inflammation, local violence, or severe cold. Those of the second are old age, impure air, scanty or innutritious food: and, for the same reason, as Sir Clifton Wintringham has observed, ossification in the arteries of the part affected; which is, indeed, chiefly a consequence of old age.\*

Where mortification originates from a severe contusion or other injury, in a person of florid and vigorous health, and in the prime of life, we have an example of the FIRST VARIETY. There is in this case high inflammatory action, great heat, swelling, and pulsation; the vessels are supplied with a superabundance of living power (the excitability of the Brunonians), and are in consequence excited beyond their strength; they are hence worn out by the impetuosity of the tail, lose their tone, and the parts become torpid and insensible from the vehemence of their own exertion.†

First variety  
exemplified.

The SECOND VARIETY may be illustrated by the mortification which so frequently takes place in the extremities of persons already exhausted by hard labour, intemperance, or advanced years, and whose extremities are bloated and anasarcaous. In this case, instead of a superabundant supply of living power, there is little or no power whatever; for the whole circulation is languid, and the nervous energy now scarcely reaches the extremities, and particularly the lower limbs, the muscular fibres of which, however, are in themselves so inirritable, that a more than ordinary excitement is scarcely capable of rousing them; and hence they yield to the process of putrefaction from a cause the very reverse of what operates in the preceding case.‡

Exemplifi-  
cation of the  
second variety.

Under the first form there is more pain and fever, as there is more sensibility and violence, than under the second; and, on this account, the destructive march is more rapid; but, with these exceptions, the symptoms, which are the ordinary ones of putrefaction, are the same. The colour of the skin changes to a dark red, or livid hue; the cuticle is separated from the true skin by the interposition of an ichorous fluid, contained in vesicles, or bullæ, or diffused generally; it bursts by degrees; and the subjacent integu-

Symptoms dis-  
tinctive and  
general.

\* Comment. de Morbis quibusdam, &c. No. liv.

† The mere torpidity, or insensibility of parts, would not amount to sphacelus, or complete mortification, or even to any degree of it whatever; for, as the editor has elsewhere explained, the entire and unalterable cessation of every action and function in the part is absolutely essential to what is understood by sphacelus. Sensibility and power of motion may be annihilated, and yet the part affected continue to live, as is daily exemplified in cases of paralysis. In a palsied limb, the temperature of the parts and the force of the circulation are also lessened; yet the fluids pursue their usual course, nutrition and absorption are carried on, and the parts continue to retain for an indefinite length of time an inferior degree of vitality. *Gangræna*, however, in the sense in which it was used by Galen, and is still often used by the moderns, signifies the first stage of mortification, when there seems to be a partial but not total destruction of the parts, when the blood still circulates through some of the larger vessels, and the nerves retain a portion of their sensibility. See First Lines of the Practice of Surgery, p. 37. and 39., 5th ed.

‡ "Mortification always spreads more extensively in cellular membrane, than in the skin and muscle; a fact particularly worthy of recollection, when amputation is to be performed." Op. cit., p. 34.

## GEN. XII.

## SPEC. I.

Gangræna  
sphacelus.

Process of nature for the prevention of hemorrhage, on the separation of the dead parts.

Sometimes peculiarly rapid in its course.

Hospital gangrene.

Description from Hennen.

Great weakness of mind as well as of body.

ments are cold, black, flaccid, sloughy, and insensible; with a sanious or bloody discharge of a most offensive smell.\*

[One remarkable circumstance always attending sphacelus, but not noticed by the author, appears to merit attention, as it demonstrates the friendly effort made by nature for the preservation of the patient: when a limb sphacelates, the blood coagulates in the large arteries leading to the parts affected, and this for some distance from the line which marks the extent of their destruction. Now, if this were not the case, the patient would inevitably bleed to death as soon as the process takes place by which the sloughs are thrown off; but, except in hospital gangrene, and phagedænic sloughing, hemorrhage is rarely to be feared in mortification.]

If the sphacelus meet with no check from art or nature, it spreads rapidly in every direction, particularly under the first variety; and more especially when aided by an impure or unventilated atmosphere, of which the hospital gangrene, as it is called, furnishes us with a fearful example. "I have seen," says Dr. Hennen, "the external ear and the palpebræ destroyed in this manner, as if in a series of concentric circles. Even upon surfaces barely contiguous, as the fingers and toes, it generally spreads in a similar way; so that the sore which might have been on the middle finger or toe, and confined entirely to it at the morning-dressing, by night engaged the adjoining sound ones, and in less than twelve hours more embraced the whole foot or hand. The gangrene still advancing, fresh sloughs † were rapidly formed, the increasing cup-like cavity was filled up and overtopped by them, and the erysipelatous livor and vesication of the surrounding skin gained ground, while chains of inflamed lymphatics could be traced from the sores to the adjoining glands; thus exciting inflammation and suppuration, which often furnished a new nidus for gangrene. The face of the sufferer assumed a ghastly anxious appearance; his eyes became haggard, and deeply tinged with bile; his tongue loaded with a brown or blackish fur; his appetite entirely failed him; and his pulse was considerably sunk in strength, and proportionably accelerated."

During this state, Dr. Hennen adds, that the bravest soldiers betrayed "the greatest imaginable impatience of pain and depression of spirits. Men who had borne amputation without a groan, shrunk at the washing of their sores, and shuddered at the sight of a dead comrade; or even, on hearing the report of his death, predicted their own dissolution, and sunk into sullen despair. The third and last stage was now fast approaching. The surface of the sore was covered with a bloody oozing; and on lifting up the edge of the flabby slough, the probe was tinged with dark-coloured grumous blood, with which also its track became immediately filled: repeated and copious venous bleedings now came on, which

\* Frank, *De Curandis Hominum Morbis*, class ii. sect. 130.

† In hospital gangrene, the sloughs are not like those of common sphacelus; but the disease is attended with a rapid and singular mode of decomposition in the mortified parts, of which hardly any vestiges appear. No ordinary sloughs are seen; but, in lieu of them, the surface of the diseased part is covered with a whitish or ash-coloured viscid matter, which exhibits at particular points specks of blood. See *First Lines of the Practice of Surgery*, p. 40. 5th edit.; *Delpech, Précis des Maladies Chir.*, tom. i. p. 75.; *R. Welbank*, in *Med. Chir. Trans.*, vol. ii.; and *Blackadder on Phagedæna Gangrænosa*, Edin. 1818.



rapidly sunk the patient; the sloughs, whether falling off spontaneously or detached by art, were quickly succeeded by others, and discovered on their removal small thickly-studded specks of arterial blood. At length an artery sprung, which, in the attempt to secure it, most probably burst under the ligature: the tourniquet or other pressure was now applied, but in vain; for while it checked the bleeding it accelerated the death of the limb, which became frightfully swelled and horribly fetid. Incessant retchings soon came on, and with cauma, involuntary stools, and hiccough, closed the scene."\*

In this severity of attack and debility of the system, the most compact part of the solids fall a prey, as well as those that are more loose; but when the atmosphere is purer or more bracing, and the strength firmer, the cellular texture first and chiefly suffers. And we are hence able to understand the meaning of Dr. Riberi, of Turin, who, in describing a similar gangrene in the hospital of San Giovanni in that city, during the years 1817—1820, tell us, that it often alternated from a sphacelating to an erysipelatous inflammation, the latter appearing as the former began to cease, on the return of a cooler or drier air; or, where both co-existed, the slighter or erysipelatous affection being limited to the more robust patients, or those who were fortunate enough to lie in the best ventilated parts of the sick wards.†

In this extreme form of gangrene, a septic principle appears to be developed, capable of propagating the same disease by contagion; for not only "upon surfaces barely contiguous" was it found to obtain an existence, but "the skin of other persons, although perfectly sound, which had been touched with a sponge employed in washing the gangrenous sores, ulcerated, and soon became itself a slough. This," adds Dr. Hennen, "was often observable among the orderlies and nurses;" and the description of Riberi does not essentially differ.

The treatment belongs rather to the department of surgery, than that of medicine. It is obvious, however, that, under the above two varieties, it must be greatly varied to meet the variety of cause and constitution. Where an inflammatory diathesis is present, evacuants of every kind must be had recourse to, as venesection, purging, and relaxants, while the local applications should consist of refrigerant epithems till the entonic action is completely reduced; after which, bark and the mineral acids, with a nutritive, but not a stimulant diet, should be chiefly relied upon; and if the fetor be considerable, powdered charcoal, or the yeast, or carrot poultice should be applied topically. But where, on the contrary, the mortification is that of atony, the warmest tonics and stimulants are demanded, both locally and generally, from the first.

If the limb be frost-bitten, and there be danger of mortification from this source, a plan of treatment will be requisite, different from both the above, the advantage of which is known to every one, though the principle upon which it acts has never been clearly explained.

GEN. XII.

SPEC. I.

Gangræna  
sphacelus.Melancholy  
termination.Alternates  
sometimes  
with erysipelas.A septic prin-  
ciple developed  
highly conta-  
gious.Mode of treat-  
ment in the  
different  
varieties.Under an in-  
flammatory  
diathesis.Under an en-  
tonic state  
from the first.Gangrene from  
frost-bite.

\* Principles of Military Surgery, 2d edit. 8vo. Edin. 1810.

† Sulla Gangrena Contagiosa o Nosocomiale, Del Dottore A. Riberi. Torino. vo. 1821.

## GEN. XII.

## SPEC. I.

Gangraena  
sphacelus.

Its physiology.

Why putrefac-  
tion does not  
immediately  
ensue.Why sudden  
warmth mis-  
chievous ;and ice-water  
serviceable.Treatment of  
hospital  
gangrene.

The torpitude, or insensibility, of the part affected is in this case evidently produced by the exhausting power of the cold, which destroys or extinguishes the irritable and sensorial principle as rapidly as it is supplied. Putrefaction, however, or a decomposition of the organic structure, does not readily ensue, because the auxiliaries of this change, and which are absolutely necessary to its production, such as heat, air, and moisture, are not present ; for, as the parts become frozen, they lose their moisture or fluidity, and as there is no breach of surface, there is no communication with the external air. When a limb in this state is suddenly brought before the fire, it becomes gangrenous almost instantly ; for, by this means, putrefaction obtains possession of these auxiliaries, and, in its process, gains the start of the remedial or restorative power of nature. And hence it is well known, that the worst thing that can be done to a frozen limb is to bring it into such a situation. On the contrary, if we give time to this restorative power to exert itself, while we prevent the process of putrefaction from taking place, by keeping the limb very nearly in the same condition of freezing, or rather by raising it out of this condition by slow and imperceptible degrees, we shall have the best chance of recovering it to life ; since we hereby afford an opportunity for the warm and circulating blood and the active principle of irritability to push forward once more into the vessels of the frozen structure, which, however weakened and insentient, have not yet become decomposed.

The advantage of plunging a frozen limb first into ice-water, and afterwards into water raised just above the freezing point, and in this manner advancing it gradually to a common temperature, is of general notoriety ; and it is this plan which forms the usual treatment. In what way the benefit is accomplished, has been a frequent subject of enquiry ; the remarks just offered may perhaps afford a satisfactory explanation of the subject.

[The treatment of hospital gangrene differs very materially from that of other cases of mortification ; but, as the subject is strictly surgical, all that need be mentioned in the present place is, that the local applications, by which it is most effectually checked, are the undiluted mineral acids, strong arsenical lotions, and, according to Delpech, the actual cautery.]

## SPECIES II. GANGRÆNA USTILAGINEA.

### MILDEW-MORTIFICATION.

GANGRENE DRY, DIFFUSE, DIVERGENT; COMMENCING IN THE EXTREMITIES, WITHOUT FEVER OR INTUMESCENCE, AND SPREADING TILL VARIOUS LIMBS DROP OFF IN SUCCESSION: GREAT HEBETUDE OF MIND AND BODY; OFTEN WITH VIOLENT SPASMS.

THIS is the *necrosis ustilaginea* of Sauvages, the specific epithet being derived from the cause to which it has commonly been ascribed, and from which, in various cases, it seems to take its rise; I mean the use of grain vitiated or poisoned by the growth of parasitic plants in the interior of the culm or straw, chiefly the "ustilago," "blight or mildew;" whence the name of "*mildew-mortification*" among ourselves, as that of *ergot*, or *spur*, among the French, from the resemblance which the mildewed or blighted corn bears to the spur of a cock, in Latin *clavus*, which is the name borne by this parasitic plant in the language of many botanists.

Grain, thus injured by some fungus or other, has been found, when employed as food, productive of two dreadful diseases; to both of which, indeed, the French have given the name of *ergot*, as occasioned by a common cause; as they have also that of *mal des ardens* from the burning internal heat, which is felt in either case. The one of these disorders is a typhous fever, with the general character of pestis, or what Sauvages calls *erysipelas pestilens*, which is synonymous with the third variety of PESTIS in the present work; the other is the migratory gangrene before us, which commences, without fever, in the hands and feet, with a sense of numbness and external coldness, a dusky or livid cuticle, great debility of mind and body, often violent spasmodic contractions\*; and spreads rapidly over the system, till the fingers, arms, nose, legs, or thighs are affected, and some of them drop off spontaneously.

Mr. Pott has described a variety of dry or chronic mortification often met with in practice, but without appearing to satisfy himself with any particular cause. "Beginning," says he, "at the extremity of one or more of the small toes, in more or less time it passes on to the foot and ankle, and sometimes to a part of the leg, and, in spite of all the aid of physic and surgery, most commonly destroys the patient. It is very unlike to the mortification from inflammation, to that from external cold, from ligature or bandage, or to that which proceeds from any known and visible cause, and this as well in its attack as in its process. In some few instances, it makes its appearance with little or no pain; but, in by much the majority of these cases, the patients feel great uneasiness through the whole foot and joint of the ankle, particularly in the night, even

GEN. XII.

SPEC. II.

The necrosis ustilaginea of Sauvages.

Supposed to be produced by the use of grain blighted or mildewed.

Hence called by the French *ergot*: as also *mal des ardens*, from its effects.

Variety of chronic mortification described by Pott.

\* Morgagni, De Caus. et Sed. Morb., Ep. iv. art. xxiv.—Bresl. Sammlung, 1724, v. p. 643.



GEN. XII.  
SPEC. II.  
Gangræna  
ustilaginea.

In severer  
cases the mind  
is affected as well  
as the body.  
Predisposing  
causes.

Remedial  
treatment.

before these parts show any mark of distemper, or before there is any other than a small discoloured spot on the end of one of the little toes.\* — Each sex is liable to it: but for one female in whom I have met with it, I think I may say that I have seen it in at least twenty males. I think, also, that I have much more often found it in the rich and voluptuous, than in the labouring poor; more often in great eaters than free drinkers. It frequently happens to persons advanced in life, but is by no means peculiar to old age. It is not in general preceded or accompanied by apparent distemperature either of the part or of the habit."

In its severer attacks, however, the constitution seems to be generally contaminated, the mind and body become equally debilitated, there is great irritability, and a tendency to convulsive action.

According to some statements, this singular disease is connected with a diseased state of the digestive organs, from excess of living, deleterious food, or some other cause in connection with great nervous debility †; and the tendency to gangrene proceeds rather from a deficiency of sensorial power, than from any morbid condition of the circulating system ‡, whether atonic or tonic. And, hence,

\* In a remarkable case of this species of mortification, which the editor attended in the summer of 1828, with Mr. Hughes, of Newman's Row, Lincoln's Inn Fields, and which was also visited by Sir Astley Cooper, both feet and legs were attacked, and gradually destroyed nearly up to the knees. The pulse varied from 100 to 130; and the stomach was so little disturbed, that the patient used generally to eat a mutton chop for dinner, until the last two or three days preceding his death, which took place about a month from the commencement of the disease. Until the final stage, the patient had but little delirium. Two circumstances were particularly remarked: first, that the disease never extended itself without being preceded by violent pain in the part about to be destroyed, so that a judgment could always be formed beforehand, from the degree of suffering, whether the spreading of the disorder would be considerable or not; secondly, that the process of mortification, and its appearance in one leg, were totally different from those exhibited in the other. In the left, the disorder began on the inside of one of the toes, and followed the course described by Pott; in the right, a general diminution of the temperature of the foot and leg occurred, without any discoloration of the skin, or any vesications, or particular affection of the toes. The coldness was followed by total loss of sensibility in the parts, and cessation of the circulation and every other action in them; the flesh was, in short, little more altered in appearance than that of the limb of a dead subject. It was a specimen of the *gangræna necrosis albida* of the present system. — Ed.

† Home, Facts and Experiments, p. 81. Ludwig, Adversar. i. i. 7. p. 188.

‡ An ossified state of the arteries leading to the mortified parts, and organic disease of the heart, have been detected in some examples of this species of chronic mortification; but not so constantly as to appear to be an unequivocal cause of the disorder, especially as this is frequently not present where they exist. Yet, with old age and an impaired constitution, it is often suspected that they are capable of bringing on, or having some share in the production of, this kind of mortification. Such were the ideas prevalent in this country about the causes of *gangræna senilis*; but, of late, a new doctrine has been promulgated by Baron Dupuytren, namely, that this variety of mortification is dependent upon arteritis, or inflammation of the small arteries leading to the parts affected. (See *Leçons Orales de Clinique Chirurgicale*, tom. iv. p. 481, &c. 8vo. Paris, 1833.) In consequence of such inflammation, they are rendered impervious, and mortification is the result. The Baron alleges, that this view has been confirmed by *post-mortem* examinations; and, what is important to be taken into the account, he declares that, by having recourse to bleeding, as well as opium, he stops the disorder, and saves not less than two thirds of his patients. When the notorious ill success with which this species of mortification is treated in Great Britain is recollected, we are bound to put Baron Dupuytren's statements to the test of experience. — Ed.

we find it best relieved by free doses of opium, in conjunction with a generous and even stimulant diet. Bark is of no avail, and the local use of spirituous fomentations and cataplasms, warm pungent oils and balsams, of as little. Mr. Pott tried them in every form, but without the smallest success: and at length employed no other topical application than smooth, soft, unirritating poultices; and confined himself to the use of opium alone, of which he sometimes gave a grain every three hours. And, under the influence of this medicine, the progress of the gangrene has often become checked in a few days, and a line of separation distinctly marked; soon after which, the mortified parts have sloughed away, the diseased bone dropped spontaneously from the affected joint, healthy granulations succeeded, and in due time a cure has been effected.

GEN. XII.  
SPEC. II.  
Gangræna  
ustilaginea.  
Benefit of  
opium.

### SPECIES III.

## GANGRÆNA NECROSIS.

### DRY GANGRENE.

THE DEAD PART DRY, SHRIVELLED, HARD, AND DUSKY.

THIS singular species of gangrene seems to proceed from a marasmus or atrophy of the affected limb, in consequence of which, as in the atrophy of the body at large, the animal oil, flesh, and fluids, also, are gradually absorbed, and the limb becomes emaciated and withered: "mummia instar pars affecta \*," says Professor Frank. During the progress of this change, it necessarily grows feebler and more torpid, till at length it is no longer capable of receiving the nervous energy, and its different parts turn dead and rigid. In palsied limbs, a termination of this kind is by no means uncommon.

GEN. XII.  
SPEC. III.  
How produced.

In some instances of this affection, the blood-vessels have collapsed, perhaps become obliterated, without a retention of any of the constituent principles of the circulating fluid, and consequently the withered limb has preserved something of the natural colour of the skin. In others, the red particles of the blood, changed, as in the veins, to a dark or livid hue, have, to a certain degree, remained in the vessels, and given to the limb a purple or variegated dye. And hence, the species has laid a foundation for the two following varieties:—

Surface sometimes natural, sometimes dark-coloured; accounted for.

- |                                |  |
|--------------------------------|--|
| α Albida.<br>White gangrene.   | Retaining something of the natural colour of the skin.       |
| β Discolor.<br>Black gangrene. | The natural colour changed to a livid, or a mixture of hues. |

It has never hitherto been satisfactorily explained how it happens, that under this kind of mortification, or death, the parts should not, as in the preceding species, fall a prey to putrefaction. Perhaps the following remarks may afford some clew to this singular exception.

Why putrefaction does not take place.

\* De Cur. Hom. Morb. Epit., tom. ii. p. 18. 8vo. Mannh. 1792.

## GEN. XII.

## SPEC. III.

Gangræna  
necrosis.Explained  
from the  
phænomena of  
a frost-bitten  
limb.As also from  
those of a  
corpse interred  
in the burning  
sands of  
Egypt.Changes of dry  
gangrene.Singular case  
of the second  
variety.

We have already had occasion to observe, under the first species, that a frost-bitten limb does not putrefy so long as it continues frozen, because the accessories or co-operative powers of putrefaction, without which this process cannot take place, are not present, such as warmth, moisture, and a free influx of air. Now none of these are present in the species before us; for the limb is cold, completely emptied of its fluids, and impervious to atmospheric influence; and consequently there are the same obstructions to putrefaction in dry gangrene, as in a limb killed by the biting power of frost.

So, in the burning sands of Egypt, a buried corpse is often found, if dug up a month or two after interment, with as few marks of putrefaction. I have said that warmth is a necessary auxiliary, but it must be warmth to a certain degree only; for if it exceed this, all the interior fluids will by the heat itself be raised towards the surface, and pass off rapidly in the form of vapour; in consequence of which, the animal substance whence they issue will be as destitute of moisture as if it were frozen, and hence as incapable of putrefying. Now this is the case with a body interred in the sultry sands of the Delta: all its fluids are so highly rarefied as to evaporate, and be drunk up by the bibulous soil by which it is surrounded, before any organic decomposition takes place: and hence the buried corpse, instead of crumbling into dust, is converted into a kind of natural mummy, some parts of which exhibit proofs of that waxy fat, to which the French chemists have given the name of adipocire; but no part of which undergoes the decomposition of putrefaction. I do not mean that this is always the case, but that it has occurred in a variety of instances, where the antiseptic incidents have been peculiarly favourable to such an effect.

And hence Dr. Frank tells us, that the dry gangrene sometimes changes into what is called humid, and, at others, converts the parts affected into a kind of mummy.\*

Dr. Alix, of Altenburg, gives a singular example of the second variety of this species, in a man of seventy-two years of age, which commenced, contrary to its usual course, with inflammatory symptoms. The back of the left hand was attacked with heat, swelling, and pain, accompanied with thirst, a smart fever, and delirium. At the time Dr. Alix saw him, a blackness had spread over all the hand, and part of the fore-arm, which were of a gangrenous hue, but without pain, and as hard as wood. The pulse was small, and the spirits low. Amputation was advised, but not agreed to. About six months afterwards, he saw the patient again accidentally: the gangrene had spread up the elbow-joint, the limb was still without pain, the pulse was better, and there was no want of appetite. As it was not supposed the man could live long, no further enquiries were made about him till a full year afterwards, when he was found to be as firm and stout as ever, although he at this time laboured under a tertian intermittent, and had lost one of his eyes. The gangrene had spread over the whole arm up to the shoulder-joint: the limb still continued hard, and as black as smoked meat, but did not emit any cadaverous smell. In about a month from this time, the arm dropped off spontaneously, without the least hemorrhage;

\* De Cur. Hom. Morb. Ep., class II. § 130.



the exposed surface of the shoulder dried without any discharge whatever, and the old man, at the time of publishing the case, four years afterwards, was in the enjoyment of a very good share of health.\* In this instance, the small proportion of living power, which continued after the inflammation had subsided, preserved the limb from putrefaction; aided by the hard and shrunk condition into which it had fallen from absorption, and a paralysis of the secretions.

Where there is no inflammation, topical stimulants, and especially of the oleaginous kind, as camphorated oils and warm balsams, with persevering friction, are sometimes found useful in the commencement of this disease. Repeated blistering and setons have also proved serviceable, and the voltaic trough still more so, in conjunction with a nutritive and generous diet. But when the gangrene has established itself, medical skill can do nothing more than look on, and lament its want of power.

GEN. XII.  
SPEC. III.  
Gangræna  
necrosis.  
Progress ex-  
plained

Medical  
treatment.

## SPECIES IV.

### GANGRÆNA CARIÆ.

#### CARIÆ.

THE DEAD PART ORIGINATING IN A PORTION OF THE SUBJACENT BONE: PAIN DEEP-SEATED, SUPERJACENT INTEGUMENTS FLACCID AND DISCOLOURED.

BONES, notwithstanding their solidity, possess the same living power, and are subject to the same diseases, as are the soft parts. Like these, they are subject to a cessation or loss of this living principle, and the disease is in this case usually called a CARIÆ† a Latin term, probably derived from the Hebrew כָּרַח "*carch*," "to dig into, penetrate, or erode," "to scoop, or hollow out." It may originate in a bone itself, which constitutes a proper caries; or it may be communicated from a superjacent ulceration, in which form it is more correctly denominated a carious ulcer.

The history and treatment of caries belong rather to the department of surgery, than that of medicine, and are to be learned from writers on this branch of the profession who have expressly treated of it, among whom may especially be mentioned Wiseman‡, Petit§, and Monro||; particularly the last, as his learned and ingenious essay on this subject ought to engage the attention of every one.

GEN. XII.  
SPEC. IV.  
Explanation  
of the specific  
term.

Caries, how  
distinguished  
from carious  
ulcer.

Chiefly belongs  
to the depart-  
ment of sur-  
gery.

\* Matthæi Francisci Alix, Med. et Chir. Doct., &c. Observat. Chirurg. fasciculus i. 8vo. Altenburg, 1778.

† More frequently at the present day a *necrosis*, as already mentioned; while the word caries is used by the best surgical writers to signify ulceration of bone. See Dr. Cumin's Arrangement, &c. of Diseases of the Bones, in Edin. Med. Journ., No. lxxxii. p. 6. — Ed.

‡ Surgery, book ii. ch. 7.

§ Maladies des Os., tom. ii. ch. 16.

|| Edin. Med. Essays, vol. v. p. 279. Besides these works, the valuable treatise of F. P. Weidmann, *De Ossium Necrosi*, fol. Francofurti ad Mœnum, 1793, deserves particularly to be consulted, as being more modern, and comprising the most approved doctrines. — Ed.

GEN. XII.  
SPEC. IV.  
Gangraena  
caries.  
Causes.

The remarks, therefore, to which the author will limit himself, will be general and pathological, and as summary as possible.

Most of the causes that produce a gangrene in the soft parts, may produce a caries or gangrene in the bones: as external injuries, cold, and a deficiency of nutrition in consequence of old age or deleterious food. It is also not unfrequently produced by lues, porphyra, or serofula.

How discover-  
ed, where no  
external ulcer.

It is usually first ascertained, where there is no external ulcer, by an obtuse and deep-seated pain, which appears to issue from the bone; an exostosis or protuberance of the bone or periosteum in the part affected, tenderness to the touch, a loose and flabby feel of the superincumbent integuments, and a discoloration of the skin. On being laid bare, it evinces all the different modifications of sphacelus, which we have just noticed in the soft parts: for it is sometimes moist and worm-eaten, forming the *caries vermoulé* of M. Petit, the cells being filled with a corrupt sanies or spongy caruncles, so that the whole assumes a quaggy appearance; and sometimes dry and wasted; and the dry variety, as in necrosis, is sometimes of a pale white, and sometimes of a black or livid hue. And hence M. Petit has subdivided the disease into four distinct species, or varieties, founded on these remarks, but into which we have not space to follow him. The dry caries is generally the most superficial, and consequently exfoliates most easily; the history and laws of which very curious process we have already pointed out under the genus *APOSTEMA*; for the economy, pursued by nature in the separation and removal of a dead soft part, is precisely the same as that pursued in the separation and removal of a dead portion of bone. The ancients attempted to expedite this by various means; some of which were puerile, but others certainly calculated by their power to do either much good, or a great deal of mischief; particularly the destruction of the integuments by the potential cautery, and afterwards an application of the actual cautery to the dead bone itself. Celsus gives a detailed account of this operation, which, when the caries was deep, was accompanied with numerous perforations into the bone, into each of which the hot iron was passed in succession.

How divided  
by Petit.

Separation how  
attempted to be  
quickened by  
the ancients.  
Potential  
cautery.  
Actual cautery.

Perforations.

[Instead of these formidable measures, which would destroy the bone, if it were not already destroyed, and which are calculated to extend the destructive process in it farther than would otherwise be the case, modern practitioners are generally content either with simple unirritating applications, and awaiting the completion of exfoliation; or, where this is too tedious and hopeless, they sometimes cut down to the diseased portion of bone, and remove it by manual operation. Many surgeons are also in the habit of applying to dead and carious portions of bone, the mineral acids, more or less diluted, with the view of expediting the exfoliation, and exciting a healthy action in the carious part; but the practice should be adopted with caution, because such applications, if they do not fulfil the object proposed, will certainly increase the mischief. Mr. Nicol, of Inverness, has published some observations, recommending the external use of the nitrate of silver, and the internal exhibition of sarsaparilla, in the treatment of caries: his remarks deserve attention.\*]

Modern  
practice.

\* See Edin. Med. and Surg. Journ., No. xciv. art. 1.

When the restorative power of art or of nature has succeeded in forming a healthy line of separation, and detaching the dead part from the living, the former is usually thrown off in a cylindrical plate; and before the exfoliation is accomplished, we are able to hear, as Severinus has justly remarked, a shrill sound whenever the carious plate is struck with a probe, as if it were hollow. Soon after this, the edges of the exfoliating part rise a little, and a little pus, or even blood, is easily pressed out at the margin. Here also granulations begin at this time to appear, which spread over the sound bone underneath, and seem to assist the separation of the dead plate above, so that it gradually becomes loose, and can soon afterwards be taken away without violence.

The dead part of a bone is sometimes detached and thrown off to a very great extent, and especially in the cylindrical bones.\* The whole body of the tibia has in this manner been occasionally detached by nature from its extremities, and its place supplied by a vicarious callus which has run down the whole of the interior groove hereby produced, and acquired the hardness of bone. Several cases of this kind are given in the Edinburgh Medical Essays †; in one of which the caries appeared in both legs: the total tibia of one limb, as the writer. Mr. W. Johnson of Dumfries, informs us, being separated and thrown off at once; while that of the other was detached in small pieces, and thrown out gradually. In five months from the removal of the entire tibia, the patient, a boy of eleven years of age, was able to walk without crutches, continued well afterwards, and was fit for any country work; the legs being straight, with only a little thickness at the ankles. Justamond gives a similar case of the humerus, and Sherman of the thigh-bone. I have occasionally seen this natural process imitated successfully, both in the tibia and the bones of the fore-arm, and the diseased part taken out by a saw, by which process a very long period of pain and confinement has been saved to the patient.

If the caries commence in the internal laminæ, the superjacent sound part has sometimes been opened through its whole length by the trephine applied in a line of succession: the carious part has thus obtained an easy exit as soon as detached, and the entire bone has soon been renewed. The humerus was thus treated successfully in the case of a negro-boy, as related by Mr. Walker. ‡

\* Bitholm. Act. Hafn., obs. 1. Nicholai Diss. Observ. quædam Medic.-Chir. Jen. 1786.

† Vol. i. pp. 192—194. Vol. v. p. 370.

‡ Med. Trans., vol. iii. p. 27. In a work devoted to medicine, a minute account of the process by which the dead bone, or sequestrum, as it is termed, becomes included in a new bony tube, may not be expected; but it is right to mention, that the mode hinted at by Dr. Good does certainly not generally take place; that is to say, the new shaft is not produced by a separation of the external laminæ of the original bone. Numerous preparations, in almost every museum, prove, that, at all events, in many instances, the sequestrum actually consists of the whole thickness of the original shaft, from which the periosteum has separated, assumed increased vascularity, and been converted into the organ for the new bony formation. After the osseous tube has been produced, a highly vascular substance begins to line its interior, lying between it and the outer surface of the sequestrum, and seemingly possessing a considerable absorbent power, which it exerts on the dead bone in contact with it. Under favourable circumstances, the greater part of the sequestrum will sometimes be gradually removed. The new osseous shell always has one or several apertures in it, termed *cloacæ*,

GEN. XII.  
SPEC. IV.  
Gangræna  
caries.  
Signs of separation.  
Progress afterwards.

The cylindrical bones often exfoliate to a great extent.

Examples.  
Tibia and fore-arm imitated by art.  
Both tibias.



GEN. XII.  
SPEC. IV.  
Gangræna  
caries.  
Caries of the  
spine.  
Spina ventosa,  
what.

A caries of the spine, from the tumid, and, so to speak, *inflated* appearance of the superincumbent integuments, was formerly denominated *spina ventosa*: and the term has, with great inconsistency, been since applied by many writers to all bones whatever affected in the same manner, and particularly those of the tarsus and carpus; as it has by others been applied, with equal incorrectness, to a general softness or flexibility of the bones, as in *perostia flexilis*, or *eyrtosis*.

Of vertebral caries Mr. Brodie has given cases which make it probable, that here also the disease sometimes commences in the bones, and sometimes in the intervertebral cartilages; for, in various instances, the loss of substance was greater in the former, and, in others, in the latter.\*

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through which any purulent matter and small particles of dead bone find their way to the outside of the new bony formation, whence they pass through fistulæ, and are discharged. — En.

\* Pathological and Surgical Obs. on the Diseases of the Joints, 2d ed. Caries, in the sense of ulceration of bone, is, as Dr. Cumin has correctly observed, of two kinds. In the *first*, a process of destruction is going forward, without any attempt to repair the injury. In the *second*, the process of absorption of the osseous substance is accompanied by the formation of a new bony deposit, which is much more irregular in its arrangement, and imperfect in its organisation, than the original bone. The first is named by Dr. Cumin *caries exedens*; the second, *caries ossificans*. A simple absorption of bone, unaccompanied with the secretion of pus, he terms *osteo-anabrosis*. “Instances of this affection are presented by bones which have suffered from the pulsating action of aneurisinal tumours; and remarkable examples of the disease have been occasionally met with in the bones of the cranium. Mr. Russell has detailed several cases, in which portions of bone were separated by this process of erosion. He has also seen the absorption proceed in such a manner as to leave an aperture in the cranium, without the separation of any bone, or any appearance of ulceration. (Edin. Med. Chir. Trans., vol. i. p. 74.) A remarkable instance of the same disease is given by Mr. Wilmer from the practice of Mr. Harrold. (Cases and Remarks, p. 40.) It is by the process of *osteo-anabrosis*, that nature produces the removal of the milk teeth; and a corresponding disease is sometimes met with in the adult, where the teeth become loose, and, when extracted, their fangs are found extensively absorbed, although by no means in a state of ulceration.” (Cumin, in Edin. Med. Journ., No. lxxxii. p. 8.) When a fungous tumour grows from the dura mater, the superincumbent part of the skull is generally absorbed, without suppuration, and the swelling projects under the scalp. — Ed.

## GENUS XIII.

## ULCUS.

## ULCER.

A PURULENT OR ICHOROUS SORE, PRODUCED BY THE SEPARATION OF A DEAD PART; BY THE BURSTING OF AN ABSCESS; BY A WOUND THAT HAS SUPPURATED; OR BY THE PROCESS OF ULCERATION.

THIS genus of diseases is, in every species, a subject of manual attention, and chiefly to be remedied or cured by external means. Its mode of treatment, therefore, must be learned under a course of surgical lectures; and it is only noticed in the present place, to show the exact station, which it ought to bear in a general system of nosology founded on a physiological basis. Ulcus, is, strictly speaking, a Greek term, with a mere change of one convertible vowel for another, to give it more of a Latin form: the derivative noun being ἔλκος, probably, as conjectured by Eustathius, from ἔλω, "traho," in the sense of "distraho," hereby producing what the Greeks called a λύσις συνεχίτης, which is, literally, a "solution of continuity."

Ulcers have been treated of by different writers under a great variety of divisions and subdivisions; sometimes as being connected with the state of the constitution, or as being a mere local disease; sometimes as recent or chronic; and sometimes as mild or malignant: but, as local ulcers may become constitutional, the constitutional may assume various forms, the recent be rendered chronic, and the mild and the malignant change places, none of these characters are calculated for clear or permanent distinction. And hence another principle has been appealed to in the volume of Nosology, derived from the variety of their external form, and they have been contemplated under the following species:—

GEN. XIII.  
Appertains chiefly to the department of surgery.

Origin of generic term.

Treated of under different principles of subdivision.

- |                     |                         |
|---------------------|-------------------------|
| 1. ULCUS INCARNANS. | SIMPLE HEALING ULCER.   |
| 2. — VITIOSUM.      | DEPRAVED ULCER.         |
| 3. — SINUOSUM.      | SINUOUS ULCER.          |
| 4. — TUBERCULOSUM.  | WARTY EXCRESCENT ULCER. |
| 5. — CARIOSUM.      | CARIOUS ULCER.          |

## SPECIES I.

## ULCUS INCARNANS.

## SIMPLE HEALING ULCER.

THE DISCHARGE PURULENT, THE SURFACE HEALTHY AND GRANULATING.

WHEN an ulcer assumes this form, it is hardly to be called a disease; being nothing more than the ordinary process of the reme-

GEN. XIII.  
SPEC. I.

## GEN. XIII.

## SPEC. I.

Ulcus

incarnans.

In this state a simple process of nature to restore soundness.

All other forms must be reduced to this.

dial power of nature to restore the substance that has been lost by external violence, or some internal morbid action, and to endow it with the same attributes of vascularity, feeling, and motion. It is to this form that all the other species of ulcer must be reduced, before a cure can be accomplished or hoped for. Even the surgeon has here little upon which to employ himself; for with cleanliness, a light and easy dressing, plain, unirritating diet, and regular hours, the processes of incarnation and cicatrization, which we have already explained under the genus APOSTEMA, will proceed spontaneously, and without obstruction, and a cure be speedily completed.

## SPECIES II.

## ULCUS VITIOSUM.

## DEPRAVED ULCER.

WITH A VITIATED SURFACE AND SECRETION.

## GEN. XIII.

## SPEC. II..

THIS degenerate condition exhibits itself under various forms, and results from various causes. The modifications most worthy of notice are the following:—

$\alpha$  Callosum.  
Callous ulcer.

The edges indurated and retracted.

$\beta$  Spongiosum.  
Fungous ulcer.

With fungous or spongy excrescences, often from a medullary base.

$\gamma$  Cancrosum.  
Cancerous ulcer.

With a hard, livid, lancinating, irregular, and frequently bleeding tumour at its base.

Causes constitutional or local.

The causes in each of these may be constitutional or local: and, in managing the ulcer, it is of great importance to determine this point; for the patient may otherwise be put very needlessly upon a long course of alterants, or may omit such a course when absolutely necessary. If there be a cancerous, a scrofulous, a scorbutic, a venereal, or any other constitutional disorder, it will be imperative upon us to pursue the respective modes of treatment already laid down for these several complaints, since otherwise no topical applications can be of the least avail.

Constitutional, from specific taint: how to be treated.

From general debility:

There may be also a considerable degree of constitutional debility and relaxation, to which the depraved state of the ulcer is owing; and, in truth, this is the most common of all the constitutional causes, and one which demands quite as much attention as any of the rest. In treating of abscess, we endeavoured to show, that one of the uses of pus is to promote the formation of healthy granulations; and in treating of inflammation, we observed, that a certain degree of vigorous and tonic, as well as inflammatory action, is necessary for the secretion of that fluid. And hence, if the system be without this condition, the ulcer cannot heal; and, instead of genuine pus and healthy granulations, we shall find a



watery, ichorous fluid poured forth, of no advantage whatever, and often of an acrimonious quality, that irritates and thickens, and sometimes erodes and extends the edges of the ulcer; or a thin imperfect pus, accompanied with flabby and fungous granulations, that sprout up, indeed, rapidly and luxuriantly, but want firmness of texture, show a weak and morbid sensibility, and bleed and die away almost as soon as they are formed.

Where this is the case, the ulcer, whatever modification it assumes, can only be brought into a healing train by increasing the health and vigour of the constitution. This, however, it is often difficult to accomplish; for, in very numerous instances of obstinate ulcers, we find the constitution has been exhausted and worn out by hard labour, hard drinking, or protracted exposure to a tropical sun, and is labouring under a long train of dyspeptic, hepatic, or podagral symptoms. It is not necessary to repeat the plan it will be incumbent upon us to pursue under these circumstances, as we have already detailed it under the constitutional affections themselves. And if, by persevering in such general treatment, we can give to the constitution a sufficient degree of vigour, the only difficulty we shall have to encounter is the vitiated state, and perhaps habit, to which the ulcer has been reduced in consequence of the constitutional affection.

We hence come to the local treatment of ulcers, which forms a direct branch of surgical, and even manual, attention. And I shall hence only further observe, that the principles, which seem to have been productive of the best success, are those of changing the nature of the vitiated action, by a local application of irritants; and increasing the tone of the vessels, by warm suppuratives and astringents, and the pressure of elastic bandages, which should be made of calico or the finest flannel. Mr. Baynton preferred the former on every occasion, as less cumbrous and more cleanly, and as being "a better conductor of that morbid heat which so constantly affects inflamed parts." In many cases, however, and particularly in cold, œdematous limbs, it is rather desirable to accumulate than to carry off heat; and here the use of flannel will be preferable to that of calico: it possesses, moreover, more elasticity, and, when thin and fine, is neither more cumbrous nor more uncleanly.

Formerly the actual cautery was frequently used in this country, as it is now abroad, as the most effectual, as well as the shortest, means of extirpating cancerous scirrhusities about the lips and other parts of the surface. And it is sometimes considered peculiarly calculated for radically destroying many of those irregular and spongy excrescences which have a tendency to bleed freely from the slightest cause.

Fungus hæmatodes, classed in the present system with ulcers, has been regarded by some writers, and especially by M. Roux, as a soft and fungous cancer, but it seems to be without any of the pathognomonic signs by which cancers are distinguished. It is not known to be hereditary, nor to become scirrhus in any stage\*, nor does it chiefly affect a glandular situation.

GEN. XIII.  
SPEC. II.  
*Ulcus vitiosum.*

how to be  
treated.

Principles of  
treatment  
when local.  
Use of topical  
irritants.  
Use of astrin-  
gents:  
bandages.

Cautery.

Fungus  
hæmatodes.

\* These observations are partly incorrect. Sir Astley Cooper mentioned a case to the editor a little while ago, where a lady, after having had a scirrhus breast removed, died of a fungus hæmatodes. Professor Carswell, as already

GEN. XIII.  
SPEC. II.  
Ulcus vitiosum.

[Although fungus hæmatodes was, in former days, generally confounded with cancer, it is a disease of a very peculiar nature. Instead of being hard and unyielding, like a scirrhus tumour, it is generally soft and elastic. Instead of being intersected by the same kind of ligamentous fibres or bands which exist in a scirrhus, fungus hæmatodes consists of a soft pulpy matter, which mixes readily with water, and is hardened by acids or by being boiled in water. When the skin gives way, instead of the morbid growth being destroyed by ulceration, as in cancer, a quick-growing fungus arises from it, and the tumour increases with augmented rapidity. Fungus hematodes, instead of having a firm texture, like the fungus of a cancerous ulcer, is a dark red, or purple, mass, of an irregular shape and of a soft texture, easily torn, and bleeding profusely when slightly injured. A cancer, in its primary form, seems to be confined to certain organs and textures; and, while in some of these fungus hæmatodes, in its primary state, has not been seen, it has been detected in other parts where no truly cancerous disease has ever been noticed. While cancer is also rather a disease of advanced life, many of the patients, attacked by fungus hæmatodes, are young.\* No remedy, external or internal, seems to have the power of checking this formidable disease. Abroad, the actual cautery has, indeed, been alleged sometimes to have answered; but, in this country, all escharotics, and even concentrated sulphuric acid, have been found incapable of destroying the fungus as fast as it is regenerated. The only chance of cure depends upon the early removal of the whole of the disease by amputation or excision; but even this is frequently impracticable, in consequence of the particular seat of the disease, and often unavailing, on account of so many parts being affected, that the disease may be said to pervade the system. †]

Singular practice of Kern.

In the treatment of depraved ulcers, some practitioners depend almost entirely for the cure on a restoration of the constitutional health, and contend that, with the accomplishment of this, the remedial power of nature is adequate to all the rest, with local cleanliness, rest, and the use of warm or cold water according to the nature of the case. Such especially is the practice of Professor Kern in the Imperial Hospital at Vienna, who makes a boast of proscribing ointments, plasters, lotions, charpie, caustics, and even bandages themselves, except in a few cases, trusting entirely to the use of water and a simple covering of linen, and this, too, even in gangrenous, scrofulous, and venereal ulcers.‡ This practice is too simple to become very popular, but his success is undisputed.

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noticed in the section on Carcinus, regards fungus hæmatodes as a species of carcinoma; and he speaks of the two diseases as occasionally met with together, not only in the same individual, but in the same organ. See his *Illustrations of the Elementary Forms of Disease*, 4to. Lond. 1833. — Ed.

\* See Wardrop on Fungus Hæmatodes, chap. xii., and *First Lines of the Practice of Surgery*, p. 215. 5th edit.

† The material deposited in scirrhus is not disposed to become organised, and vessels are rarely perceptible in it; but the brainlike substance of fungus hæmatodes abounds with them. — Ed.

‡ *Annalen der Chirurgischen Klinik*, 2 vols. 8vo. Wien, 1809.

### SPECIES III. ULCUS SINUOSUM.

#### *SINUOUS ULCER.*

COMMUNICATING WITH THE NEIGHBOURING PARTS BY ONE OR MORE CHANNELS.

WE have already seen that inflammations of every kind propagate themselves by continuous sympathy, and hence one cause of the spread of those that are ulcerative. But ulcerative inflammations do not spread equally; for those parts are most subject to their action, and consequently give way soonest, where the living principle is weakest, or the structure is most loose and cavernous. And hence a more frequent origin of hollows and sinuses in the cellular substance, particularly in the more dependent parts, as about the rectum and the urethra.

When these sinuosities are first formed or scooped out, their walls are soft, irritable, and of the common cellular web, but, when they have remained for a considerable period of time, they become callous and insensible, forming the two following varieties, noticed in the volume of Nosology:—

GEN. XIII.  
SPEC. III.  
Pathology.  
How first  
formed.

Rendered  
callous.

- |   |   |
|---|---|
| <p>α Recens.<br/>Recent sinus.</p>        | <p>The channel fresh and yielding.</p>    |
| <p>β Fistulosum.<br/>Fistulous sinus.</p> | <p>The channel chronic and indurated.</p> |

The form, assumed by a sinus, is determined by the course of the probe; its capacity, by the quantity of water or any other fluid it will contain, when injected by a syringe.

The form of  
a sinus, how  
ascertained.

Three modes of cure have been attempted: that of incarnation, or filling up the hollow by sound granulations issuing from the bottom; that of coalition, or an union of the walls of the sinus; and that of destroying it, by an opening down its entire length. The first is sometimes accomplished by warm lotions, where the sinus is shallow. The second is more usually had recourse to where it is deeper, and attempted first by irritant and even cro-sive injections, so as to excite a new inflammation down the whole course of the canal, and afterwards by pressure, applied at first to its lowest part, and advanced gradually to its mouth; or, which is better, by a seton passed from the orifice of the ulcer to the utmost depth of the sinus, leaving here an opening sufficiently large for the escape of whatever matter might otherwise collect and become stagnant. The third mode of cure is effected by the knife, and where unaccompanied with danger or inconvenience from the vicinity of large blood-vessels, is by far the speediest and most decisive of the whole.

Modes of at-  
tempting a  
cure various.

Explanation of  
the three  
usually pur-  
sued.



SPECIES IV.  
 ULCUS TUBERCULOSUM.  
*WARTY EXCRESCENT ULCER.*

WITH TUBERCULOUS EXCRESCENCES, AND RAGGED AND SPREADING  
 EXULCERATIONS.

GEN. XIII.

SPEC. IV.

Synonyms.

Noli me tangere.

Lupus.

General character.

Why called a cancer.

Origin and progress.

THIS is the *NOLI ME TANGERE* \* of many writers, and the *LUPUS* of others; evidently referring to its unmanageable character, and the ravenous or wolf-like ferocity with which it preys on the neighbouring organs, spreading in ragged and fungous lobes, or with cracking and callous edges, and destroying the skin through an extensive range, and sometimes even the muscles, to a considerable depth.

A valuable practical paper upon this disease † was addressed to the Royal Society by M. Daviel, surgeon to Louis XV. of France; who describes it as a cancer, to which, indeed, from its tendency to ramify, and the virulence of its discharge, it has some resemblance; and whence Sauvages denominates it *cancer lupus*. [The disease generally commences on the alæ of the nose, with small tubercles, which gradually change into ulcerations. These throw out a discharge, which dries and produces scabs, under which the sores are sometimes much concealed, and burrow more deeply into the part. In general, a portion of the disease will be healing, while another is extending itself; and afterwards the parts, previously healed, break out again. In this manner, all the skin of the nose suffers, and sometimes other parts of the face: in bad cases, even the cartilages are destroyed; and little of the nose is ultimately left, but its bridge. According to Dr. Bateman, the disease sometimes appears on the cheek, in the form of a sort of ringworm, destroying the substance, and leaving a deep and deformed cicatrix; and he had seen a similar circular patch of the disease, dilating itself at length to the extent of a hand-breadth or more, over the pectoral muscle. ‡]

When the case is recent, and there is no morbid irritability in the habit, the diseased action has yielded to a skilful application of counter-stimulants, as a dilute solution of the nitrate of silver, or aromatic vinegar; after which the tar ointment has been found most serviceable.

Medical treatment.

[In particular examples, the most successful local applications have been solutions of arsenic, or sulphate of copper, and the unguentum hydrargyri nitratis. Frequently, however, nothing will avail without internal alterative medicines, such as the compound decoction of sarsaparilla, nitrous acid, the muriate of barytes; and, above all, the liquor arsenicalis. In obstinate cases, the præ-

\* *Dartre Rongante*, of M. Alibert.

† Phil. Trans., vol. xlix., year 1755.

‡ Bateman's Practical Synopsis of Cutaneous Diseases, p. 296. 3d ed. 1814.

tice of dissecting away all the diseased parts has sometimes been adopted.]

GEN. XIII.  
SPEC. IV.

## SPECIES V.

### ULCUS CARIOSUM.

#### CARIOUS ULCER.

THE ULCER EXTENDING INTO THE SUBSTANCE OF THE SUBJACENT BONE.

WHEN a portion of a bone is killed by an ulcerative process commencing in itself, it forms, as we have already observed, a *CARIES* properly so called. When it is destroyed by the spread of a sore commencing in the integuments or muscles above it, the disease is called a *CARIOUS ULCER*; and when the ulceration extends to the medulla of the bone, it is often denominated an *arthrocace*.

Upon this subject, however, it is not necessary to enlarge in the present place; as we have already discussed the general nature and the ordinary forms of ulceration under the *SECOND SPECIES* of the genus before us; and the mode by which the death and separation of one portion of bone from another are effected, under the *FOURTH SPECIES* of the preceding genus.

GEN. XIII.  
SPEC. V.

Carios ulcer,  
how distin-  
guished from  
caries.

Arthrocace,  
what.

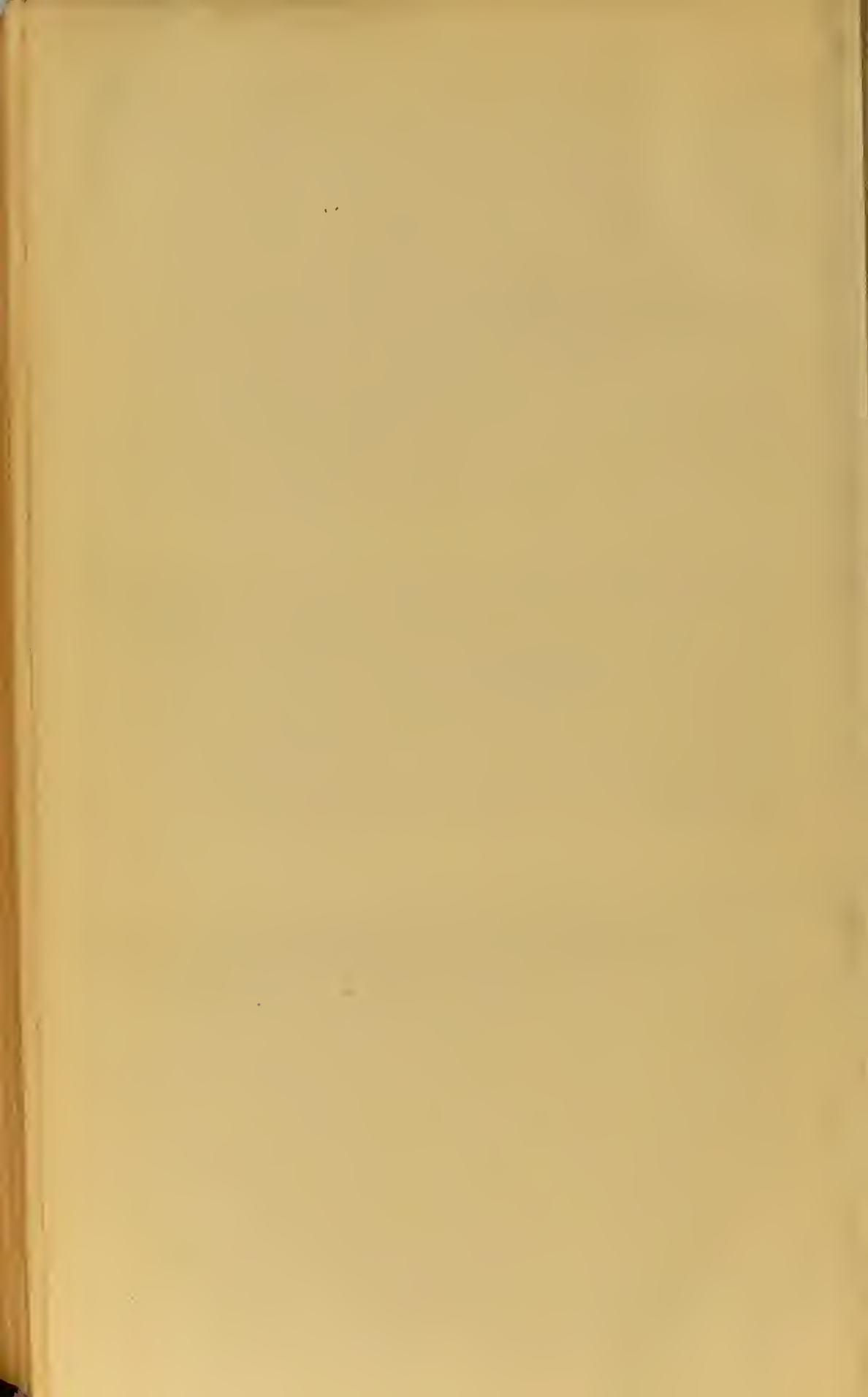
General nature  
described  
already.

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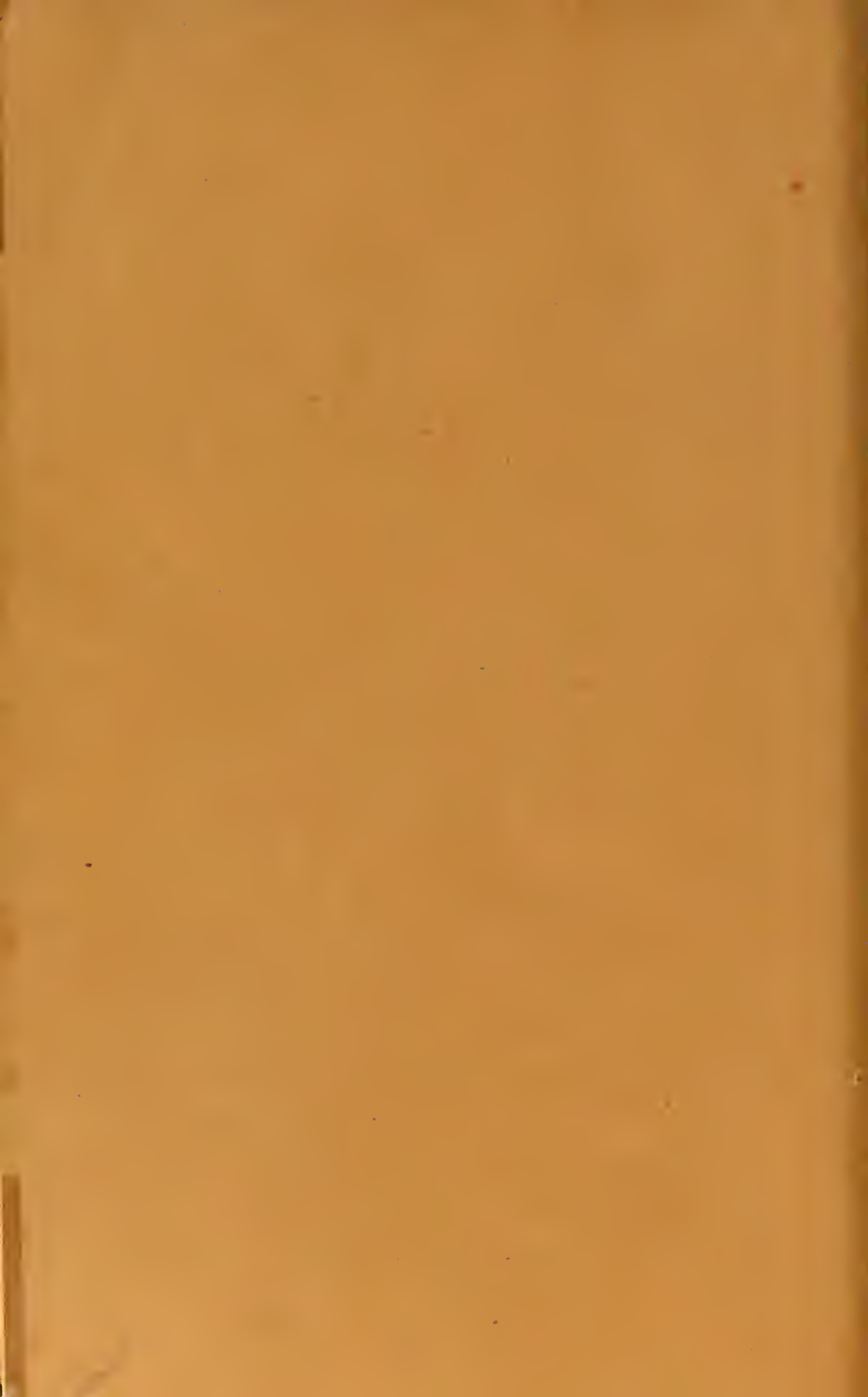












SOME TIGHT

GUTTERS

10/11/14  
10/11/14  
10/11/14

